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THE HEALING ART;

OR,

Chapters upon Medicine, Diseases, Remedies, and
Physicians,

Historical, Biographical and Descriptive.



IN TWO VOLUMES.

VOL. II.

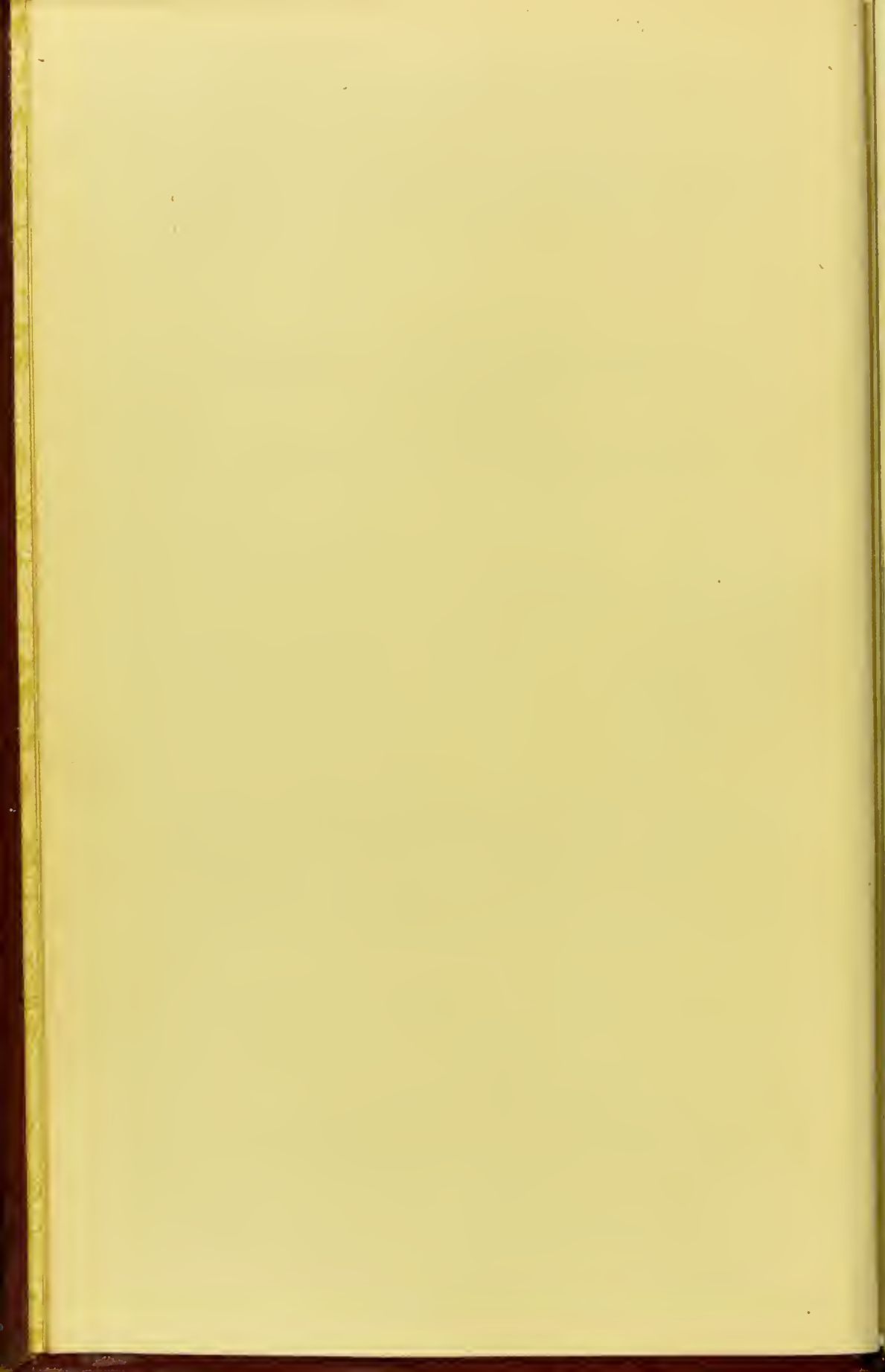
"The prime qualities of a physician may be summed up in the words *Capax*, *Perspicax*, *Sagax*, *Efficax*. *Capax*—there must be room to receive, and arrange, and keep knowledge; *Perspicax*—senses and perceptions keen, accurate, and immediate, to bring in materials from all sensible things; *Sagax*—a central power of knowing what is what, and what it is worth, of choosing and rejecting, of judging; and finally, *Efficax*—the will and the way—the power to turn all the other three—capacity, perspicacity, sagacity—to account, in the performance of the thing in hand, and thus rendering back to the outer world, in a new and useful form, what you had received from it."—JOHN BROWN, M.D., *Horæ Subsecivæ*.

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THE HEALING ART.

CHAPTER I.

ENGLISH PHYSICIANS IN THE EIGHTEENTH CENTURY.

IN glancing at the record of English Physicians in the Eighteenth Century, one of the earliest names which draws our attention is that of Dr. Cheyne, whom it would not be unfair to include in what, for convenience sake, we might call the "Dietetic School"—a School afterwards illustrated by the talents of Abernethy, and in our own day boasting some distinguished members—a School which places great reliance upon regimen, and aims not so much at helping Nature, as at removing the impediments we are apt to put in the way of Nature helping herself.

GEORGE CHEYNE, 1670-1742.

Cheyne was one of the earliest of our physicians who insisted emphatically upon a rule of rigid temperance, and advocated a farinaceous diet as an efficient therapeutic agent. His *modus vivendi* was by no means acceptable to the medical fraternity in an age when excessive indulgence in the pleasures of the table was common to all classes. And doubtlessly a good many of Cheyne's brother-physicians applauded the

epigrammatic impertinence which Dr. Wynter levelled at him :—

“ Tell me from whom, fat-headed Scot,
Didst thou thy system learn ?
From Hippocrates thou hadst it not,
Nor Celsus nor Pitcairn.

“ Suppose we own that milk is good,
And say the same of grass ;
The one for babes is only food,
The other for an ass.

“ Doctor ! one more prescription try
(A friend’s advice forgive) ;
Eat grass, reduce thyself, and die ;—
Thy patients then may live.”

There was more humour and less rudeness in Cheyne’s reply :—

“ My system, doctor, is my own,
No tutor I pretend ;
My blunders hurt myself alone,
But yours your dearest friend.

“ Were you to milk and straw confined,
Thrice happy might you be ;
Perhaps you might regain your mind,
And from your wit be free.

“ I can’t your kind prescription try,
But heartily forgive ;
’Tis nat’ral you should bid me die,
That you yourself may live.”

The value of a strict attention to dietetics had been impressed upon Dr. Cheyne by his sufferings from extreme obesity. An hereditary tendency to corpulency had been increased by good living, until, at one time, he weighed thirty-two stone. *Multi vixerunt fortes ante Agamemnona*—there had been fat doctors before Dr. Cheyne. Dr. Fleming weighed twenty stone and eleven pounds ; the ladies of Clifton were wont to call Dr. Bidders their “walking feather-

bed"; and the corpulency of Dr. Stafford was celebrated in a jesting epitaph:—

"Take heed, O good traveller, and do not tread hard,
For here lies Dr. Stafford in all this churchyard."

But Dr. Cheyne was the Daniel Lambert of the profession. His health gave way, and his physical sufferings were really severe. In his book entitled "*The English Malady*" (1734), he says: "My breath became so short that upon stepping into my chariot quickly and with some effort, I was ready to faint away for want of breath, and my face turned black." As drugs had no effect upon this superfluity of flesh, he restricted himself in the matter of diet, and confined his table to the simplest dishes—"seeds, bread, mealy roots, and milk." Success attended this mode of treatment, and he recovered his health, though he lost his former boon companions. They all dropped off, he says, like autumnal leaves: "They could not bear, it seems, to see their companion in such misery and distress, but retired to cheer themselves with a cheerupping cup, leaving me to pass the melancholy moments with my own apprehensions and remorse. Even those who had shared the best part of my profusions, who had been assisted in their necessities by my false generosity, and in their disorders relieved by my care, did now entirely relinquish and abandon me, so that I was forced to retire into the country quite alone, being reduced to the state of Cardinal Wolsey when he said, 'that if he had served his Maker as faithfully and warmly as he had his prince, He would not have forsaken him in that extremity'; and so will every one find when union and friendship are not founded on solid virtue or in conformity to the Divine order, but in sensual pleasures and mere jollity." He proceeds to state that, in these circumstances, he began to seek consolation and comfort in religion, and eventually came "to this firm and settled resolution, to neglect nothing

to secure my eternal peace, more than if I had been certified I should die within the day ; nor to mind anything that my secular avocations and duties demanded of me less than if I had been insured to live for fifty years more. This, though with infinite weakness and imperfection, has been my settled intentions in the main since."

When his health was re-established, he allowed himself a more generous diet, but repeated attacks of illness induced him to resume his farinaceous regimen, in which he finally persisted until his death in 1742, in his seventy-third year.

George Cheyne was born in Scotland in 1670. His parents designed him for the Church, but after attending the lectures of Dr. Pitcairn he resolved to study Medicine. He took his degree of M.D. at Edinburgh in 1700, and almost immediately removed to London, where he published his "Theory of Fevers"—an attempt to explain the doctrine of secretion on mechanical principles. Diverging into the thorny ways of Mathematics, he gave to the scientific world a treatise on "Fluxions" (*Fluxioni Methodus Inducta*), which procured his admission into the Royal Society, and provoked some severe and well-deserved criticism from Drs. Oliphant and De Moivre. His other compositions are:—"An Essay on Health and Long Life," which even the advance of physiological science has not rendered obsolete ; "Philosophical Principles of Religion, Natural and Revealed" ; and "An Essay on the True Nature and One Method of Meeting the Gout ; together with an Account of the Nature and Quality of Bath Waters, the Manner of Using Them, and the Diseases in which they are Proper."

Cheyne was endowed with a good deal of strong common sense, which he imported into his treatment of his patients, studying their peculiarities of temperament and constitution, and applying his principles of diet and regimen with moderation. He could hold his own in the war of words at a time

when almost everybody in society was witty, or wished to be thought so. Beau Nash, the *arbiter elegantiarum* of the Bath Assembly Rooms, called him in to prescribe for him during a temporary indisposition. On the following day, when Cheyne inquired if he had followed his prescription, the Beau impudently replied: "No, doctor, I hav'nt followed it, for if I had I should have broken my neck, since I threw it out of my bedroom window." A few days afterwards Cheyne had his revenge. He and some friends were enjoying themselves in lively conversation, when, as the Beau approached, the doctor suddenly checked his laughter, and exclaimed, "Hush! we must be grave now; here's a fool coming our way."

A Somersetshire squire, named Tantley, rivalled Cheyne in obesity during the physician's era of excessive corpulency. Observing him one day to be preternaturally silent, the doctor asked him of what he was thinking.

"I was thinking," said the squire, "how it will be possible to get either you or me into the grave after we die."

"Six or eight stout fellows," retorted Cheyne, "will do the business for me; but, as for you, sir, you must be taken at twice."

Cheyne, with all his good sense, did not emancipate himself from the Sangrado-like propensities of the profession at that time for the constant use of the lancet, which, by the way, continued in vogue for a century later. The present writer's father, when a young man, was bled regularly three or four times a year. Hugh Bethel, one of Pope's friends, writes to him that Dr. Cheyne had recommended him to take four or five ounces of blood from his arm every full moon, and advises the poet to adopt the same remedy. "You are too thin and weak," he adds, "for an issue"—as if thinness and weakness were no impediments to monthly blood-letting!

RICHARD MEAD, 1673-1754.

Richard Mead was born at Stepney on the 12th of August, 1673. His father, Matthew Mead, whose name is not unknown to theologians, had been one of the two ministers of the parish, but in the second year after the Restoration was ejected as a Puritan, and thereafter continued to preach to a Nonconformist congregation until his death in 1699. He came of a good Buckinghamshire family, and being possessed of considerable means, was able to bestow on his numerous family a liberal education, maintaining a Mr. John Nesbitt, afterwards a Nonconformist minister, in his house as their tutor, until, being wrongfully suspected of designs against the Government, he was compelled for a time to retire to Holland. Richard, his eleventh child—there were thirteen in all—was then removed to a classical school in Clerkenwell Close, where, under the charge of Mr. Thomas Singleton, he acquired a sound knowledge of Latin and Greek. At the age of sixteen he was sent to Utrecht to complete his studies, under the learned Gravius, and thence, three years later, having resolved to embrace the profession of Medicine, he proceeded to Leyden. Pitcairn,* Professor of Physic at the famous Dutch University, was much pleased with his pupil's intelligence and assiduity, and lent him valuable assistance in the prosecution of his studies; and what seeker after knowledge is there who will not own the immense benefit—the precious help—to be derived from a timely suggestion or an opportune explanation?

Having completed his medical education, he made a tour through Italy in company with David Polhill and Dr. Pellet, visiting Florence, Padua—where he took his degree of M.D.—

* Dr. Archibald Pitcairn (1652-1713) held the post of Professor of Medicine at Leyden from 1692 to 1698, when he resumed practice in Edinburgh. He was a man of original thought, and exercised a considerable influence on the medical opinions of his time.

Naples, and Rome. Returning to England in 1696, he established himself at Stepney, and utilized his Nonconformist connections to form and extend a profitable practice. His talents, his stores of information, and his polished manners soon raised him into repute, and his name travelled far beyond the boundaries of the obscure district in which he had chosen to reside. In 1701 he placed his fame on a more certain basis by publishing his "*Mechanical Account of Poisons*," the result of investigations which had extended over several years. He was one of the earliest of that school of experimental physiologists to whom the science of medicine owes so many valuable discoveries. He handled vipers and provoked them to seize hold of hard bodies, on which he hoped to collect their venom in all its deadly force. Having obtained this matter or virus, he infused it into the veins of living animals, mixed it with human blood, and ventured—such is the enthusiasm of science—even to taste it, in order to test the utility of sucking the wounds inflicted by serpents. He endeavoured, though, it is hardly necessary to say, without success, to discover a specific for the cure of hydrophobia. He made investigations also into the properties of certain chemical substances, the publication of which might, he says, have been injurious to society; nor was this a groundless apprehension in an age when the art of the secret poisoner baffled the skill of the physician.

His second work, "*De Imperio Solis et Luna in Corpora humana, et Morbis inde oriundis*" ("On the Influence of the Sun and Moon upon Human Bodies, and the Diseases thence arising"), was published in 1704. In the previous year the high estimation in which he was held had obtained for him the appointment of physician of St. Thomas's Hospital, and about the same time the Surgeon's Company selected him to read in their Hall the Lectures on Anatomy. The University of Oxford conferred on him the degree of M.D., in 1707. and in

the same year he was placed on the Council of the Royal Society. In 1711 he removed to Austin Friars, to the house vacated by the death of Dr. Howe, many of whose patients willingly availed themselves of the rising physician's services. Every year his reputation increased, and he was fortunate enough to secure the friendship of Dr. Radcliffe, who sounded his praises far and wide, though Radcliffe was as ardent a Jacobite as Mead was a steady Whig, and Mead as courtly and amiable in his manners as Radcliffe was brusque and imperious. Mead's advice was sought when Queen Anne was attacked by her last illness; and he had the honesty at once to declare that she was dying. The declaration was a fatal blow to the Jacobites, who wanted time to mature their plans, while it encouraged the Whigs to take immediate steps to secure the Protestant succession. "It has always been considered that his prompt boldness occasioned the peaceable proclamation of George I. The Queen's demise in one hour was confidently predicted by her Whig doctor. He was often taunted afterwards with the chagrin his countenance expressed when the royal patient, on being again blooded, recovered her speech and senses." She survived only two days.

On the death of Dr. Radcliffe, in 1714, Mead moved into his house in Bloomsbury Square, and as he succeeded also to the greater part of the great physician's practice, he resigned his appointment at St. Thomas's. In 1716, again in 1719, and in 1724, he was appointed Censor of the College of Physicians; but in 1744, declined to accept the office of President. His practice, I suppose, was the largest and the most fashionable in London, and his yearly income averaged not less than £6000 to £7000. His fee to patients consulting him at home was one guinea. When he visited, two guineas or more, according to their social position. The apothecaries who attended him at Tom's or Batson's coffee-house—at the former in the forenoon, and at the latter in the evening—and after

describing the symptoms of their patents, received his prescriptions, paid him half-a-guinea. To poor clergymen and authors his advice was free.

Mead's affability and good temper were almost proverbial; but Woodward, Professor of Physic at Gresham College, on one occasion provoked him into an angry outburst. He attacked him with so much virulence that Mead hastily drew his sword, and called on his sharp-tongued enemy to defend himself. The duel resulted in a victory for Mead, who, having disarmed Woodward, bade him beg for his life. "Never," replied Woodward, smartly, "till I am your patient." His urbanity did not avert from him the invariable penalty of success, and he was exposed to detraction in its foulest forms. In 1721, one of the physicians whom he had outstripped in the race for wealth and fame distilled his venom into an anonymous pamphlet, entitled, "The Art of Getting into Practice in Physic, here at present in London. In a letter to that very ingenious and most learned Physician (lately come to Town), Dr. Timothy Vanburth, M.D., A.B.C." The writer comments very coarsely on Mead's removal to the house of his deceased friend, Radcliffe:—"As to Nostrums," he says, "I cannot much encourage you to trade in these if you would propose to get universal business; for though they may serve to make you known at first, particularly in such a way, yet it will not promote general business, but on the contrary. I rather, therefore, would advise you to court, flatter, and chime in with the chief in Play, and luckily a noted practitioner should drop, do you be as sure and ready to get into his house as he is into his coffin."

In 1735, Mead introduced to public notice a specific against the bite of a mad dog—a compound of pepper and of *lichen cinereus terrestris*. For awhile it was immensely popular; but it has long sunk into oblivion.

Having observed with much care the efficacy of purgatives

in preventing or diminishing the effects of secondary fever in cases of confluent small-pox, Mead, in 1747, published his treatise, in elegant Latin, "On the Small-Pox and Measles," to which he added a "Translation from Rhazes," with a view to illustrate the similarity of the practice of the Arabian physicians to that advocated by Sydenham and Freind. Boerhaave, between whom and Mead the friendliest relations existed, supplied him with the sole Arabic MS. extant of the Essay of Rhazes, which had been preserved at Leyden. For some years Mead had been active in carrying out the inoculation treatment for small-pox, which Lady Mary Wortley Montague had introduced from the East, and with equal courage and ability was recommending to her countrymen. It was no easy task which she had so generously assumed. She had to encounter the opposition of the medical profession, as well as to conquer the ignorance and credulity of the public. The English people have always been the slaves of custom, the victims of tradition; and thousands were willing rather to die of a disease which had a respectable flavour of antiquity, than to be saved by a process which was "new-fangled," and came from "foreign parts." It was, as her biographer, Lady Lonisa Stuart, remarks, "an arduous and a thankless enterprise." "Those who have heard her applauded for it ever since they were born," she adds, "and have also seen how joyfully vaccination was welcomed in their own days, may naturally conclude that when once the experiment was made, and had proved successful, she could have nothing to do but to sit down triumphant, and receive the thanks and blessings of her countrymen." Such was not the case. In the four or five years immediately succeeding her return to England, she seldom passed a day without almost regretting her heroic philanthropy, such were the vexation, the obloquy, and the persecution in which it involved her. The clamour raised by folly and fanaticism was almost incredible. The faculty,

who were then bound fast in the fetters of ancient prejudices, rose against her with very few exceptions; the clergy* descended from their pulpits on the impiety of seeking to control the designs of Providence, as if small-pox were a blessing sent direct from heaven; the common people were encouraged to hoot at her as an unnatural mother, who was prepared to endanger the lives of her own children. She gained, however, many supporters among the higher classes; and Dr. Mead, as I have said, was one of the few medical men who rendered her a loyal assistance. Mead, in 1721, was requested by the Prince of Wales to superintend the inoculation of some condemned criminals, the Prince intending afterwards to encourage the practice in his own family: the experiment was entirely successful, and the individuals on whom it was made received their liberty.

The Oriental practice of inoculation Lady Mary thus describes in a letter written from Adrianople:—

“The small-pox, so fatal and so general amongst us, is here entirely harmless, by the invention of ingrafting, which is the term they give it. There is a set of old women who make it their business to perform the operation every autumn, in the month of September, when the great heat is abated. People send to one another to know if any of their family has a mind to have the small-pox; they make parties for this purpose, and, when they are met, the old woman comes with a nut-shell full of the matter of the best sort of small-pox, and asks what vein you please to have opened. She immediately rips open that you offer her with a large needle, and puts into the vein as much matter as can lie upon the head of her needle, and after that, binds up the little wound with a hollow shell, and in this manner opens four or five veins.”

* The Rev. Edward Massey, preaching in 1722, affirmed that Job's distemper was confluent small-pox, and that he had been inoculated by the Devil.

Of the origin of small-pox nothing is known. No reference to the disease can be found in any Greek or Arabian writer of the sixth century. The earliest accurate description of it is furnished by Rhazes (in the tenth century); though it had previously made its way into England. After the Crusades, it spread over central and western Europe, but did not extend to the northern countries until some years later. In 1507, the Spaniards introduced it into San Domingo; and in 1510, into Mexico—a more fatal scourge than the swords of Cortes and his followers; for, according to Dr. Robertson, it swept away in Mexico alone three millions and a half of people, and throughout the New World accomplished the most fearful ravages. In 1707, it appeared in Iceland, and carried off more than a fourth part of its inhabitants; in 1733, it almost depopulated Greenland.*

I must here remind the non-professional reader that inoculation was no efficient preventive against this terrible disease, at least so far as society was concerned. It gave the individual on whom it was practised complete immunity against the malady in its severer form; but it had an injurious effect upon the community at large, because it tended to foster the natural disease, and favour its extension among those who were unprotected by vaccination. While the deaths from small-pox were 180 to 200 in 1000, the average number at the Inoculation Hospital was only 3 in 1000; and yet Dr. Heberden points out that in the years 1700—1730, before inoculation was established, the deaths from small-pox were at the rate of only 74 per 1000, while in 1770—1800, notwithstanding all that inoculation had done for the individuals subjected to it, the deaths were 95 per 1000, an increase in the ratio of about 5 to 4. According to Dr. Moore, at the beginning of the eighteenth century nearly one-fourteenth of the population

* DR. COLLINSON, *Small-Pox and Vaccination Historically and Medically Considered*.

died from small-pox ; at the end of the century, the number of victims had increased to one-tenth. These facts will enable us to measure the full value and importance of the boon conferred upon humanity when Dr. Jenner discovered Vaccination.

When in 1720, the Plague devastated Marseilles and the country immediately surrounding it, so that 60,000 people perished, and a not unreasonable apprehension prevailed that it might visit England, the French physicians stoutly declared that it was not contagious, and this view was selfishly favoured by the commercial classes. The British Government, however, thought it desirable to apply to Dr. Mead for advice ; and after a careful examination of the subject, he gave it as his opinion that the contagious character of the disease was indisputable. A strict system of quarantine was therefore established. In his "Short Discourse concerning Pestilential Contagion, and the Methods to be used to Prevent It," he laid down ample regulations for the kind of sanitary police which, in case of a recurrence of the Plague, ought to be enforced. His handbook excited so deep and general an interest that seven editions of it were exhausted in one year.

Of the liberal tendencies of his mind, and his capability of emancipating himself from narrow professional views, Mead furnished a proof in the support which he steadily and disinterestedly gave to Sutton's invention for ventilating ships and similarly close and confined spaces. Like most inventors, Sutton met with every kind of opposition, open and clandestine, and would undoubtedly have succumbed to its violence, had not Mead, convinced of the usefulness of his invention, exerted all his influence, and induced the Admiralty to order a trial of it, at which he assisted, with several Fellows of the Royal Society whom he had interested. In a memorial to that learned body, he ably explained its simplicity and its effectiveness ; and eventually, after ten years of persevering

labour, succeeded in procuring an order from the Admiralty that Mr. Sutton's machine should be supplied to all the ships of the Royal Navy. It has since been superseded by more effective inventions; but as the pioneer of these deserved the success it met with.

As Mead advanced in years he began to contract his extensive professional practice, though subjects connected with the main work of his life and his favourite pursuits continued to engross his attention. One result of the studies which amused his comparative leisure was a learned and exhaustive treatise, "*Medica Sacra*," on the more remarkable diseases mentioned in the Bible, from which we gather that in his opinion the demoniacs of the New Testament were lunatics and epileptics; an opinion* also held by Semler (see his "*Comm. de Dæmoniis quorum in Novo Testamento fit Mentio*," 1770-79), and Hugh Farmer, ("Essay on the Demoniacs of the New Testament," 1775). Another and more important result was his "*Medical Precepts and Cautions*," which embodies the conclusions of his prolonged experience and mature reflection. His remarks on the preservation of bodily and mental health are instinct with enlightened principles. "Compared with similar productions of its epoch, this book stands high on the ground of judgment and of taste; it is generally free from the superstitious polypharmacy

* "There is a partial truth in the assertion that these possessions were bodily maladies. There was, no doubt, a substratum of disease, which in many cases helped to lay open the sufferer to the deeper evil, and upon which it was superinduced; so that cases of possession are at once classed with those of various sicknesses, and at the same time distinguished from them, by the Evangelists; who thus at once mark the connection and the difference (Matt. iv. 24; viii. 16; Mark i. 34). But the scheme which confounds these cases with those of disease, and, in fact, identifies the two, does not, as every reverent interpreter of God's Word must own, exhaust the matter; it cannot be taken as a satisfying solution of the difficulties it presents; and this for more reasons than one."—ARCHBISHOP TRENCH, *Notes on the Miracles*, p. 161.

which defaces many of its contemporaries, and from the diffuseness and verbiage which the fashion of the time abused into the multiplication of bulky volumes. It is highly valuable as a compendious and elegant specimen of the doctrines and practice of the first half of the last century."

Mead was twice married: first to Ruth Marsh, the daughter of a London tradesman, who died in 1719, leaving behind her four children; and second, to Anne, daughter of Sir Rowland Alston, Bart. There is a scandalous story that, in his old age, he became enamoured of a blacksmith's daughter in Fetter Lane, and in the hope of winning her favour, went to Paris, and took lessons from Dupré in dancing. We are unwilling to dwell upon the senile folly of a great man; and it is enough to note that it is made the foundation—no doubt with a good deal of exaggeration—of a satirical novel, entitled, "The Cornutor of Seventy-five; being a genuine narrative of the Life, Adventures, and Amours of Don Ricardo Honeywater, Fellow of the Royal College of Physicians at Madrid, Salamanca, and Toledo, and President of the Academy of Sciences in Lapland; containing, amongst other most diverting particulars, his intrigue with Donna Maria W——s, of Via Vincellosa, *anglicé*, Fetter Lane, in the city of Madrid. Written originally in Spanish, by the Author of Don Quixote, and translated into English by a Graduate of the College of Mecca, in Arabia."

Dr. Mead died on the 16th of February, 1754, in his eighty-first year. He was buried in the Temple Church; his memory is honoured in Westminster Abbey by a bust and an inscription. He was a man of fine tastes and generous sympathies: the friend of Pope, Arbuthnot, Garth, Newton, and Bentley; a liberal and discriminating patron of the arts; and the dispenser of a lavish hospitality. At his table one was sure to meet with everybody distinguished in art, science, or letters; foreigners of distinction he was the first to seek

out and entertain. Though he made an immense fortune, he left to his children no more than a moderate inheritance, for he not only lived on a splendid scale, but he spent large sums in the formation of a library; and his house in Great Ormonde Street, to which he removed in 1719, was filled with choice relics of antiquity, statues, pictures, and curiosities. His tastes were catholic; neither religious nor political differences affected his choice of intimates; and his liberal action towards Dr. Freind, a pronounced Jacobite, will be remembered with pleasure.

[About Dr. John Freind a few words, in this connection, may appropriately be said. Freind was born at Croughton, in Northamptonshire, in 1675. From Westminster School he was elected to Christ Church, Oxford, in 1694. His scholarship was broad and exact; and, together with Foulkes, he published, in 1696, an edition of the orations of Æschines against Ctesiphon, and of Demosthenes on the Crown. He also revised the Delphin edition of Ovid's *Metamorphoses*. He took an active part in the long literary contention provoked by the publication of the fictitious "Letters of Phalaris." Having embraced the profession of Medicine, he pushed his studies with great eagerness; and in 1699 published his letter upon "Hydrocephalus" (or water on the brain), addressed to Dr. (afterwards Sir Hans) Sloane. In 1700 he wrote an ode, in not ungraceful Latin, on the death of the Duke of Gloucester; and in the following year Sir Hans Sloane was made the recipient of another professional letter, "*De Spasmi rarioris Historiâ*." No mean accomplishments these for a young man in his twenty-sixth year! It was at this time that he took his degree of M.A.; he graduated as M.B. in June, 1703. In 1704 he was appointed Professor of Chemistry at Oxford. He served for two years (1705-7) as physician to the Earl of Peterborough's army in Spain; and on his return published a narrative of

that modern knight-errant's expedition, which acquired a good deal of popularity.* In 1707 he received the degree of M.D. by diploma, and began to practise in London with some degree of success, finding his principal clients among the Tory party. In 1709 he published, with a dedication to Sir Isaac Newton, the lectures on chemistry which he had delivered as chemical professor at Oxford; and in 1711, during Sir Isaac Newton's presidentship of the Royal Society, he was elected a Fellow. He accompanied the Duke of Ormond's army in Flanders, as physician, in 1712. In April, 1716, he was chosen a Fellow of the College of Physicians; and soon afterwards, as if to vindicate his right to the honour, published the first and third books of his "*Hippocrates de Morbis Popularibus*," to which he added a "*Commentary upon Fevers*," in nine short dissertations. The industry of Dr. Freind was as distinguished as his scholarship and general capacity; for besides all this literary work he attended to a large and increasing practice, and found time to mix in the literary and political circles of the metropolis.

In March, 1717, he delivered the Gulstonian Lecture in the College of Physicians; and in September, 1718, was elected one of the censors of the college. He held the post for two years, and in 1720 was chosen Harveian orator. His steadfast advocacy of Tory principles procured him an entrance into Parliament, in 1722, as M.P. for Launceston. He was declared not duly elected; but was formally returned in 1725, and at once entered into active opposition to Sir Robert Walpole. On suspicion of being concerned in Christopher Layer's extravagant plot for the restoration of the Stuarts (1722), but really, because he had actively defended his friend Bishop Atterbury, who, for his reputed share in the same conspiracy, had been thrown into the Tower, and proceeded

* J. FREIND, *Account of the Earl of Peterborow's Conduct in Spain* (1707).

against by Bill of Attainder, Freind, in March, 1723, was arrested and imprisoned. During his captivity, which lasted for some months, his indefatigable pen was employed upon a Latin letter, to Dr. Mead, "On Certain Kinds of Small-Pox"; and on his *magnum opus*, "The History of Physic, from the Time of Galen to the Commencement of the Sixteenth Century," published in 1726-27. Though opposed to Freind in politics, Dr. Mead spared no exertions to obtain his release; and being called in to attend Sir Robert Walpole, so strenuously plied the great minister with requests for Freind's discharge, that Walpole eventually allowed him to be bailed; the sureties being Dr. Mead, Hulse, Levet and Hale. To celebrate the joyful event, Mead gave a large dinner party, at which both Whigs and Tories were present; and as Freind was on the point of leaving for his own residence (in Albemarle Street), called him aside into a private room, and presented him with five thousand guineas, the fees he had received—or professed to have received—from Freind's patients during his incarceration.

Freind was appointed physician, soon after his release, to the Prince of Wales, who, when he ascended the throne as George II., made him physician to Queen Caroline. But his prosperous career was somewhat suddenly arrested by fever, and he died on the 26th of June, 1728, at the comparatively early age of fifty-two. He was buried at Hitcham, in Buckinghamshire, and a monument was erected to his memory in Westminster Abbey.*]

NOTE.—The popularity of Dr. Mead finds expression in a couple of contemporary epigrams. The first is imitated from the Greek of Palladas:—

"When Mead reached the Styx, Pluto started and said,—
'Confound him! he's come to recover the dead!'"

* His Latin treatises were published in one vol. folio, under the title of "Opera Omnia Medica," etc.

Not less complimentary to the physician's skill is the following :—

“Mead's not dead, then, you say—only sleeping a little—

Why, egad ! sir, you've hit it off there in a tittle.

Yet, friend, his awaking I very much doubt ;

Pluto knows who he's got, and will ne'er let him out.”

WILLIAM HEBERDEN, 1710–1801.

William Heberden was born in London in 1710. He was only in his fifteenth year when he was entered at St. John's College, Cambridge. He took his first degree when he was eighteen, and directing his studies with a view to qualify for the medical profession, graduated as M.D. in 1739. He practised in Cambridge with success for several years, and gave an annual course of lectures upon the *materia medica*. In 1746 he was elected a fellow of the London College of Physicians, and in 1748 established himself as a practitioner in the metropolis, where for thirty years he occupied an eminent and prosperous position. In 1761 George III. wished to appoint him physician to the Queen, but he respectfully declined the honour. In his later age he limited his residence in London, and his professional duties, to the winter; enjoying a long summer holiday in his house at Windsor. He married in January, 1760, and became the father of five sons and three daughters, all of whom he survived, except one daughter, and a son who succeeded him in his practice. He died on the 17th of May, 1801, at the advanced age of ninety.

His contributions to medical literature were numerous, and extended over a wide range of practical subjects. All bore witness to his professional skill, the extent of his experience, and the keenness of his perception; but he is now chiefly known by his celebrated “*Commentarii de Morborum Historia et Curatione*” (1802), of which an English version

appeared in 1806. He had long been in the habit of making notes in a pocket-book at the bedside of his patients; and every month he used to select and copy out, under the proper titles of the diseases, whatever seemed to him worthy of preservation. In 1782 he employed himself in digesting this register into the form of this volume of Commentaries on the History and Cure of Diseases, carefully abstaining from any reliance on his memory for material circumstances not expressly written down in his notes. The work thus conscientiously prepared he entrusted to his son for publication after his death.

“The most important addition,” says his biographer, “which a superior understanding can, at present, contribute to the stock of medical knowledge, is not so much *novelty* as *truth*. New things have been presented to us, in rapid succession, during many centuries; and the most urgent want of the science is to establish what is true, and to separate the genuine from the suspicious. There is much force in the frequent remark of Cullen, that there are more false facts in medicine than false theories. Heberden perceived this state of things, and has supplied towards its relief all that a single mind could hope to accomplish. He is one of the few medical writers who may deservedly claim the title of eclectic; he had no favourite doctrines to maintain, no prejudices to gratify, and was solely animated by the desire of recording with fidelity that which he had seen and done. So many medical authorities have been ambitious of founding a sect; so many writers have been merely stimulated by the desire of acquiring immediate practice—and have discussed with passion the most serious topics—that it is gratifying to be always able to find in the pages of Heberden a scrupulous and unvarnished narrative of the symptoms of disease and of the effects of remedies, such as they presented themselves to a calm and deliberate intellect, during a length and extent and

variety of opportunity rarely enjoyed by any practitioner of any age or country."

Soemmering considered the "Commentaries" of so much value that he reprinted them in Germany, with a preface in which he referred to their author as the *Medicus verò Hippocraticus*.

It has been remarked that the greater and more various the experience acquired by a physician in his profession, the more strongly is he, as a rule, inclined to accept the opinions of Heberden, and the more warmly is he compelled to esteem his writings.

He claimed and preserved the admiration and respect of all who knew him by a singular combination of modesty and of dignity of character. He was not only a well-informed and accomplished scholar and liberal patron of letters; but a man of the highest integrity of conduct, of genial and courteous manners, of genuine though unostentatious piety, and of an unaffected benevolence of heart. He had a firm belief in the progressive character of Medicine: "I please myself with thinking," he says, "that the method of teaching the Art of Healing is becoming every day more conformable to what reason and nature require; that the errors introduced by superstition and false philosophy are gradually retreating; and that medical knowledge, as well as all other dependent upon observation and experience, is continually increasing in the world. The present race of physicians are possessed of several most important rules of practice, utterly unknown to the ablest in former ages, not excepting Hippocrates himself, or even Æsculapius." Both by his practice and teaching he assisted in the development of the Art which he had studied so profoundly and loved so deeply.*

* See *Memoir* prefixed to the "Commentarii"; *Lives of British Physicians*; PETTIGREW, *Memoirs of Physicians, Surgeons, etc.*; DR. MACMICHAEL, "*The Gold-headed Cane*," etc.

WILLIAM CULLEN, 1710-1790.

William Cullen, one of the most eminent of the Scotch physicians of the eighteenth century, was born of humble parents at Hamilton, in Lanarkshire, on the 15th of April, 1710. He was educated at the local grammar-school, where his quick intelligence and tenacious memory soon raised him head and shoulders above his schoolmates; and afterwards at the University of Glasgow. He was still in his teens when he was apprenticed to a medical practitioner named Paisley, who possessed a good medical library, and allowed his young pupil to pasture upon it at will. His companions observed that though he remained almost silent in their discussions if these turned upon subjects of which he knew little or nothing, he was always on the alert to take up those subjects and study them, so that the next time they were touched at, he proved to be the best informed. Late in 1729, he went to London, and obtained the surgeoncy to a merchant ship, commanded by a kinsman, which traded between London and the West Indies. On his return he served for a short time in an apothecary's shop, in Henrietta Street, Covent Garden, pursuing his studies meanwhile with all a young Scotchman's dogged perseverance.

The death of his father, quickly succeeded by that of his eldest brother, compelled him to return to Scotland in the winter of 1731 to take charge of his younger brothers and sisters. He settled at Auchinlee, in the parish of Shotts, and endeavoured to get together a small practice, still toiling away at his books, since he had no other means of supplying his deficiencies. A few pounds bequeathed to him by a relative enabled him to make an advance in the direction of medical education. He first studied philosophy and literature under a dissenting minister across the Border; and next, for two winters running attended the classes at the

Edinburgh Medical School, throwing himself into the work with such energy and enthusiasm that he distanced all his fellow-students. In the spring of 1736 he established himself as a surgeon in Hamilton with a just confidence that he knew something about his profession. Accident—and accident, or what we call accident, plays, after all, a considerable part in the life of each of us—introduced him to the Duke and Duchess of Hamilton, whose patronage secured him the custom of all the principal families in the neighbourhood. He became quite a personage in Hamilton; was elected to the town-council in 1737, and in 1739 was appointed provost. His practice extended for miles around, and in his pharmacy he had several apprentices—one of whom was, as William Hunter, to win a foremost place among the physicians of his day. Hunter resided with him for three years, from 1737 to 1740, and always declared they were the happiest of his life. The friendship of the two kindred and sympathetic spirits was uninterrupted by separation and distance, and Hunter invariably spoke of Cullen as the man whom he loved the most, and to whom he was the most indebted in the world.

In 1740 Cullen took an M.D. degree at Glasgow University; and in the following year won a greater prize in the person of an amiable, accomplished, and attractive lady, who became his wife, and proved in all things a worthy helpmeet. She bore him seven sons and four daughters, and their union lasted for seven-and-forty years. In 1744 Dr. Cullen removed to Glasgow, his fame having outgrown the narrow sphere of a small provincial town. He would have taken this step at an earlier date, but the Duke of Hamilton would not hear of it, and had prevailed on him to remain by promising to establish at Hamilton Palace a chemical laboratory and to lay out a botanical garden. The Duke's death, in the winter of 1743, released him. At Glasgow Cullen laboured to establish a

medical school, and with this view gave lectures on medicine, botany, *materia medica*, and chemistry. Here he had as pupil the celebrated Joseph Black, whose discoveries in chemistry, and especially his theory of latent heat, have immortalized his name.

Through the influence of the Duke of Argyll he obtained, in 1751, the professorship of Medicine in the University of Glasgow, and at the same time Adam Smith was appointed to the Chair of Logic, from which he was afterwards transferred to that of Moral Philosophy. The two professors appreciated each other's capacity; and were soon united in that close, strong intimacy which is founded upon intellectual sympathy. But Cullen fretted within the limited field to which his active and original genius was confined. At that period Glasgow was unable to provide such a medical school as could alone content him: and he rejoiced when, in 1756, he was invited to take the professorship of Chemistry at Edinburgh. Resigning all his employments in the West of Scotland, he betook himself with alacrity to the historic city which was to become the scene of his distinction—from which he was to send bright and energetic spirits, trained and inspired by himself, to all parts of the world—a city which he largely benefited and enriched by the lustre its medical school acquired under his able direction. Chemistry had hitherto been neglected at Edinburgh, but Cullen restored it to its rightful position; and his lectures drew a larger assemblage than those on any other science, except anatomy. His students spoke of him with an enthusiastic affection which in some quarters provoked a jealous opposition; and a party was formed which decried and misrepresented his teaching. The result of the controversy was not only to clear but to extend Cullen's reputation. He proceeded steadily and tranquilly on his path, opening up a wide field of private practice, which his attractive manners, his kindness, and his disin-

terestedness enabled him to cultivate with success. He became the friend of his patients, who valued his companionship not less than his professional advice.

While holding the professorship of Chemistry, he delivered for several years the clinical lectures at the Royal Infirmary, and in these he embodied the views which he had formed after assiduous study and long experience. No such clinical lectures had ever before been given ; and they are the model upon which succeeding lectures have carefully been formed. Their simplicity, their originality, their boldness, their comprehensiveness, seized the attention of all who heard them. They were the well-considered utterances of a man who had thought out for himself the lessons of an extensive practice—who was not unmindful of the teaching of his predecessors, but refused to be slavishly bound by it. In the treatment of disease he advised his pupils to pay full attention to the course of nature, to separate essential from accidental symptoms, to trace with attentive eye the operations of the remedies they administered. He laid great stress upon the necessity of study and observation, and endeavoured to apply to Medicine the Baconian principles of philosophy. Try all things ; hold fast to that which is good—this was the sum of his earnest and reiterated counsel. “Every wise physician,” he said, “is a dogmatist, but a dogmatical physician is one of the most absurd animals that lives. We say he is a dogmatist in physic who employs his reason, and, from some acquaintance with the nature of the human body, thinks he can throw some light upon diseases and ascertain the proper methods of cure ; and I have known none who were not dogmatists except those who seemed to be incapable of reasoning, or who were too lazy for it. On the other hand, I call him a dogmatical physician who is very ready to assume opinions, to be prejudiced in favour of them, and to retain and assert very tenaciously, and with too much confidence, the opinions or

prejudices which he has already taken up in common life, or in the study of the sciences." He protested against the prevailing custom of administering complex remedies, in which ten or a dozen different drugs were employed, with the apparent design that one at least might benefit the patient if all the others failed. His prescriptions were always very simple, so that their effect could easily be traced; and he was the first to popularize the use of Cream of Tartar, Tartar Emetic, James's Powder, and Henbane.

In 1763, on the death of Alston, Cullen was appointed to the chair of *Materia Medica*, and in a few weeks the eight or ten pupils of Alston had increased to upwards of a hundred. Imperfect reports of his lectures on this subject having been published, Cullen, in his later years, thought it due to his reputation to issue them in a full and accurate form. Accordingly they appeared in a couple of quarto volumes, which also embraced his views of general therapeutics—a branch of the theory of medicine which, in that age, was unfortunately neglected. On the death of Dr. Whyte, in 1766, Cullen succeeded to the chair of the Theory of Medicine, and surrendered the chair of Chemistry to Black.* Next, the death of Rutherford (Sir Walter Scott's maternal grandfather) vacated the chair of Practical Medicine. For this, Dr. Gregory became a candidate as well as Cullen; and it was

* Joseph Black was born in 1728, in the neighbourhood of Bordeaux, where his parents then resided. In 1746, he entered the University of Glasgow, and studied the natural sciences under Cullen and Dick. Thence he removed to Edinburgh, and while pursuing his chemical studies, was led to investigate the nature of the caustic alkalies, and to demonstrate that they owed their causticity to the removal of carbonic acid under the influence of heat. He began to lecture on chemistry at Glasgow in 1756, and the force and vividness of his teaching gathered around him a large and admiring body of students. Experimenting on the loss of heat which takes place during the liquefaction of solid bodies and the evaporation of liquids, he established the doctrine of "latent heat," as it is now accepted by the scientific world. He also examined

ultimately arranged, in order to do justice to both competitors, when their claims were so nearly equal, that they should alternately lecture on the theory and on the practice of Medicine. Their talents were of a dissimilar kind; and the students did not fail to profit by the variety and emulation which the two friendly rivals exhibited. The arrangement was most successfully carried out, with entire cordiality between the two celebrated physicians, until the early death of Gregory in 1773, when Cullen became sole Professor of the Practice of Physic. He resigned the post on the 30th of December, 1789—only a few weeks before his death, which took place on the 5th of February, 1790, in the eightieth year of his age. He retained his faculties to the last.

Cullen's appearance, according to his biographer, Dr. James Anderson, was striking and not unpleasing. He was tall and meagre in person, with an expressive countenance and a keen and eager eye. In later life he stooped a good deal, and gave a stranger the idea of a contemplative recluse. His manners, however, were courteous and kindly, and he was eminently successful in securing the confidence and attachment of his patients. He rose very early, and dictated to an amanuensis from seven to nine. He began his visits to his patients at ten. An extensive practice, his professional duties, and his scientific studies left him little time for the

into the specific heats of numerous bodies; and in order to test the accuracy of the ordinary mercurial thermometer, tried whether equal increments of heat in different parts of the scale were always attended by equal expansion. After his appointment to the professorship of Chemistry at Edinburgh, he seems to have done very little in the way of original research. Ill health crippled his exertions during his later years, but he lived to reach old age, dying in 1799. It is said that he was the first to employ hydrogen gas in the elevation of balloons, but he never claimed the merit of the discovery. His modest and unassuming disposition tended to deprive him of much of the fame to which his success as an experimental chemist entitled him.

cultivation of social relations ; but his intercourse with his friends was of the pleasantest and most cordial character. His chief amusement was playing whist. As a lecturer he excelled all his Scotch contemporaries. He employed only a few brief notes ; and spoke extemporaneously with the utmost care, force, and variety, and with that full sympathy between himself and his audience which is possible only to the extemporaneous speaker. His illustrations were generally new, always felicitous, and introduced with much oratorical effect. Alibut bears witness to the strong influence he exerted over the foreign students who flocked—untrained and impartial—to his classes, and preserved ineffaceable impressions of his power to convince and stimulate and encourage.

“His arrangement was clear to the dullest capacity. The spirit of his discourse was always in unison with the tone of voice and the expression of countenance inspired by the particular mood which governed him on the day. If he were joyous, all the figures introduced for illustration bounded with mirth and good humour ; if he were grave, the objects placed in view were of a more sombre hue and on a grander scale ; and if he were peevish (which we may easily believe to have been his least accustomed frame), a peculiar tone of thought, word, and action excited a train of new ideas in his auditory. The languor of a nerveless uniformity was never experienced. He did not so much strive to imbue the student with particular details, as to present him with a general view of the whole subject—to show what had been already attained—to point out what remained to be discovered—and to place him on the road which seemed to conduct to a solution of difficulties. A rapid outline was first drawn, in which the whole figure started boldly at once from the canvas, distinct in all its parts, and unmixed with any other object ; presently he began to trace the picture anew, to strengthen the features, to sketch the distance, and

to complete the whole in as perfect a manner as the state of his science would permit."

His relations to his pupils were almost paternal. He knew every one of them, and took the deepest interest in their progress and welfare. He invited them in small parties of two and three and four to his table, and made himself acquainted with their character and position, their merits, defects, and opportunities. The more diligent he distinguished by his special friendship. He threw open his library to their use; and when they left college kept up an active correspondence with them, and gave them what assistance he could in their early career. He was very careful to find out those who were hampered by narrow means, and often invented some polite excuse for declining payment for his lectures, not only for a first course, but frequently for a second. After two courses he made no charge for further attendance. He introduced into Edinburgh the custom of refusing to take fees for medical advice from students of the University. In all pecuniary matters he was liberal even to carelessness—a characteristic which is not usually accepted as a national one; and it is said that he was accustomed to deposit his money in an open drawer, and that he and his wife drew upon it as upon a bank, according to their needs. Is it necessary to add that he died without leaving a fortune?

On the principal features of Cullen's teaching we must endeavour to enlighten the reader. That direct and important influence upon the healthy or morbid conditions of the human system which the earlier pathologists had ascribed to the *fluids*, Baglivi and Hoffmann had proved to belong to the *solids*; and Hoffmann had also shown that the changes which take place in the character of the fluids are merely the results of the changes which first take place in the solids. The operations and all the revolutions of life

were thus performed in the solid parts of the system—named by Hoffmann the *Solidum Vivens*. The *Solidists*, as Hoffmann and his followers were called, acknowledged, with Hippocrates, the existence of a vital principle, the laws of which could be detected only by studying the phenomena peculiar to living bodies; these phenomena arising in the action of the said principle upon the fibres, among which Nature has distributed it in order to animate them all with a certain portion of energy and activity. Cullen unquestionably belonged to this school. He viewed the human body “as a combination of animated organs, regulated by the laws, not of inanimate matter, but of life, and superintended by an immaterial principle, acting wisely, but necessarily, for the general health, correcting deviations, and supplying deficiencies, not from a knowledge and a choice of the means, but through a pre-established relation between the changes produced, and the motions required for the restoration of health.”

Cullen’s views of the functions of the nervous system attracted great attention from their novelty. Later research has invalidated some of his conclusions, but many of the fundamental facts of nervous physiology he was the first to discover and put forward. He distinguished between the functions of the nerves of sensation and of motion, and represented the nervous system as the seat of all psychological manifestations. Thus arose his great pathological doctrine of excitement and collapse, which formed the basis of his teaching in the chair of Practical Medicine.

His principal works mark an epoch in the history of Medicine. In 1769, appeared his treatise on the classification of diseases, entitled, “*Synopsis Nosologiæ Methodicæ*.” This was followed in 1784 by his “*First Lines of the Practice of Physic*,” 4 vols., 4to, which was quickly translated into French, German, Italian, and Latin; and in 1789 by his “*Treatise of the Materia Medica*.”

Out of the system of Cullen sprang that of Brown, as a fungus will grow upon a healthy tree. John Brown was born at Dunse, in Berwickshire, in 1737; died in London in 1788. He seems to have received a good education. Settling in Edinburgh, he became a teacher of Latin, and a translator of theses or essays into that language. When approaching middle age, he obtained permission to attend the medical classes at the University gratuitously, and began his professional studies with a mind which had already saturated itself in the technical language of the science. Like many other men of genius he led a somewhat irregular life, fell into poverty, and was delivered from starvation by the generous hand of Cullen, who engaged him to instruct his children in Latin. He then attached himself with the impetuosity of his nature to Cullen and his doctrines; and even looked forward, it is said, to obtaining a position in London after Cullen's death by repeating his lectures. But some disagreement arose; and Brown, changing face with astounding readiness, set to work to ridicule and defame his generous friend, patron, and teacher. He commenced a course of opposition lectures, in which he formulated the so-called Brunonian system. He divided all diseases into *sthenic* and *asthenic*: in the first of these, *excitability*, which he considered the source of life, was increased, while in the second it was diminished. The former were characterized by direct, the latter by indirect, debility. His therapeutics were marked by an equal simplicity with his nosology: the sthenic affections were to be cured by bleeding, purging, and a low diet; all other diseases by rich diet, wines, and abundant stimulants. As the physicians of the day were too partial to a lowering regimen, it is no wonder that Brown's mode of treatment obtained for a time the suffrages of a large portion of the public. It was decidedly popular in Scotland, and spreading over the whole of Europe, procured for its eccentric and wayward founder the title of "the

Modern Luther." As explained by its disciples, it had certainly an attractive air: "Suppose a fire to be made in a grate, filled with a kind of fuel, not very combustible, and which could only be kept burning by means of a machine containing several tubes placed before it, and constantly pouring streams of air into it. Suppose also a pipe to be placed in the back of the chimney, through which a constant supply of fresh fuel was gradually let down into the grate to repair the waste occasioned by the flame kept up by the air-machine. The grate will represent the human frame; the fuel in it the matter of life, the excitability of Dr. Brown and the sensorial power of Dr. Darwin. The tube behind supplying fresh fuel, will denote the power of all living systems constantly to regenerate or reproduce excitability; while the air-machine of several tubes denotes the various stimuli applied to the excitability of the body, and the flame drawn forth in consequence of that application represents life, the product of the exciting powers acting upon the excitability."

But the emptiness and pretentiousness of the system were after awhile so clearly exposed that it does not now boast, I suppose, of a single adherent. Its simplicity was due to its empiricism. Simplicity is, indeed, the distinctive "note" of quackery, which always offers with some one universal remedy to cure every disease that man "is heir to."

As a specimen of Brown's prescriptions (which will probably account for the popularity of his system), I quote particulars of the regimen he enforced upon a hypochondriacal patient. "For breakfast, toast and rich soup made on a slow fire, a walk before breakfast, and a good deal after it; a glass of wine in the forenoon *from time to time*; good broth or soup to dinner, with meat of any kind he likes, but always the most nourishing; *several glasses of port or punch* to be taken after dinner, till some enlivening effect is perceived from them, and a *dram after everything heavy*; one hour and a half after

dinner another walk; between tea-time and supper a game with cheerful company at cards or any other play, never too prolonged; a little light reading; jocose, humorous company, avoiding that of popular Presbyterian ministers and their admirers, and all hypocrites and thieves of any description. . . . Lastly, the company of amiable, handsome, and delightful young women and *an enlivening glass.*" One cannot read this remarkable formula without a suspicion that Brown was laughing in his sleeve at his patient, or the public, when he enunciated it!

It has justly been remarked that the ramifications and dependencies of medical theories are very interesting to trace. Cullen seems to have built up his celebrated system on the foundation laid by Hoffman and his supporters. Brown availed himself of the "nervous energy" of Cullen, which he re-named "excitability." In some parts of his "*Zoonomia*," Erasmus Darwin adopted the phraseology of Brown, though his practice was distinct; and on the ruins of the Brunonian system arose the Italian contra-stimulant school of Rasori and Tommasini. But in Medicine, as in every other department of human inquiry, it is the truth which survives; empiricism and falsehood cannot long endure the searching tests of analysis and experiment.*

JOHN FOTHERGILL, 1712-1780.

Though not one of the epoch-men of Medicine—such as Harvey, Sydenham, Hunter, Jenner, and Simpson—Dr. John Fothergill, as the following brief biographical sketch will show, has more than one indisputable claim to the gratitude of posterity in connection with the great Art of Healing.

* DR. THOMSON, *Life of William Cullen*; *Annual Register*, 1790; PETTIGREW, *Memoirs of Physicians*; DR. MACMICHAEL, *The Gold-headed Cane*; DR. RUSSELL, *History and Heroes of the Art of Medicine*; etc.

He came of a respectable Yorkshire family, and was born at Carr End, Wensleydale, in March, 1712. His chief literary education he received at Sedburgh, and at the age of sixteen, having gained a fair knowledge of the classics and his own language, he was apprenticed to an apothecary at Bradford. He soon made himself so thoroughly conversant with the properties of drugs and the nature of many diseases, that his employer and tutor permitted him to visit and prescribe for his patients. On the termination of his apprenticeship he proceeded to Edinburgh, where the school of medicine was then under the guidance of such men of light and leading as Monro, Alston, Rutherford, Sinclair, and Plummer. Monro quickly took note of his talents and activities, and persuaded him to study for the rôle of a physician instead of being content, according to his own modest programme, with an apothecary's qualifications. His method of work was admirably thorough: he took notes of the heads of the lectures which he attended, and afterwards translated into Latin those which had been given in English. Then he carefully consulted and compared the opinions, both of the ancients and the moderns, on the subject before him, adding such remarks as his reading and reflection suggested. He pursued the same plan in his clinical studies; when any special case interested him, he examined the various authorities bearing on the point, and from their evidence and observations formed a comparative result. This *modus operandi* may not have been original or peculiar to himself; but it affords a striking proof of the energy and intelligence with which Fothergill prepared to undertake his professional responsibilities. He graduated in 1736, choosing for his thesis "The Use of Emetics"; and then repaired to London, where he entered St. Thomas's Hospital. In 1740 he accompanied some friends on a short tour through Holland, France, and Germany; and on his return settled down in Gracechurch Street, to the practice of his profession.

Some isolated essays on topics more or less directly connected with Medicine were the first offspring in print of his agile and energetic intellect. In one of these, "On a Case of recovering a Man dead in appearance," he suggested many of the regulations afterwards adopted by the Humane Society.

Dr. Fothergill was a Quaker, and came of a Quaker family. We may reasonably assume, therefore, that his religious connections assisted him in establishing a practice. At all events, his professional rise was very rapid. Yet few physicians have cared less for the *material* results of their exertions; he was so absorbed by professional enthusiasm that his sole anxiety was for the welfare of the sufferers placed in his charge. His biographer, Dr. Lettsom, tells us that nothing was more distasteful to his feelings than an estimate of the medical profession founded upon its supposed pecuniary advantages. "My only wish," he declared, "was to do what little business fell to my share as well as possible; and to banish all thoughts of practising physic as a money-getting trade, with the same solicitude as I would the suggestions of vice or intemperance." Nor was this an empty boast: at the very height of his professional success he held, and acted upon, the same principle. "I endeavour," he wrote, "to follow my business, because it is my duty, rather than my interest: the last is inseparable from a just discharge of duty; but I have ever wished to look at the profits in the last place, and this wish has attended me ever since my beginning." And again:—"I wished most fervently, and I endeavour after it still, to do the business that occurred, with all the diligence I could, as a present duty, and endeavoured to repress every rising idea of its consequences. . . . Such a circumscribed, unaspiring temper of mind, doing everything with diligence, humility, and as in the sight of the God of Healing, frees the mind from much unavailing distress and consequential disappointment."

Out of the comparatively narrow limits of a successful

practitioner's sphere of action, Fothergill rose into that much broader and loftier one of a pathological authority, on the production, in 1748, of his "Account of the Sore Throat attended with Ulcers; a disease which hath of late years appeared in this city, and in several parts of the nation." To this disorder, which had assumed an epidemic character, a large number of persons had fallen victims, in the higher as well as the lower ranks of society. Dr. Fothergill had observed that the drastic treatment generally adopted, such as bleeding, purging, and the medicines daily employed to reduce inflammation, had almost always produced an injurious effect. Alas! how many thousands more have been swept away by calomel and the lancet than by gunpowder and steel! The disease was confounded in ordinary practice with the common sore throat, or inflammation of the tonsils. But Fothergill carefully distinguished the differences in the nature of the complaint and in the progress of the symptoms, which were usually of the typhoid kind, and shewed a disposition to gangrene in the affected parts. The cause of this tendency he believed to be a putrid virus, or *miasma sui generis*, introduced into the system by contagion; principally by means of the breath of the person affected. "This virus, or contagious matter, produces effects more or less pernicious according to the quantity and nature of the infection, and as the subject is disposed to receive or suffer by it. Putrefactive and malignant diseases, in common, admit of the most sensible and secure relief from discharges of the peccant matter, either upon the skin in general, or on particular parts of the body. The redness and cutaneous inflorescence, in the present case, may be considered as an eruption of the like nature, and therefore to be promoted by such methods as have proved successful in similar diseases. A cordial, alexipharmic, warm regimen has been found by experience to be of the most use in such cases."

Fothergill seems to have been the first physician who detected the connection between ulcerated sore throat and scarlet fever; and his essay, which was translated into nearly every European language, greatly extended his reputation, while his successful mode of treating this formidable disease brought him a large number of patients.

Like many other medical men of the first class, Fothergill had his favourite pursuits, which were at once the occupation and amusement of his scanty leisure. These were chemistry and botany: the latter he cultivated on a large and liberal scale, much to the advantage of the nation.

At Upton, near Stratford, in Essex, he purchased an extensive estate, and laid out a noble garden of five acres, for the cultivation of exotic plants, which he spared no pains or cost in collecting. "At an expense," says Sir Joseph Banks, "seldom undertaken by an individual, and with an ardour that was visible in the whole of his conduct, he procured from all parts of the world a great number of the rarest plants, and protected them in the amplest buildings which [at that time] this or any other country has seen. He liberally proposed rewards to those whose circumstances and situations in life gave them opportunities of bringing hither plants which might be ornamental, and probably useful to this country or her colonies, and as liberally paid these rewards to all that served him. If the troubles of war had permitted, we should have had the *Cortex Winteranus*, etc., etc., introduced by his means into this country, and also the Bread Fruit, Mangosteen, etc., into the West Indies. For each of these, and many others, he had fixed a proper premium. In conjunction with the Earl of Tankerville, Dr. Pitcairn, and myself, he sent over a person to Africa, who is still employed upon the coast of that country, for the purpose of collecting plants and specimens. Those whose gratitude for restored health prompted them to do what was acceptable to their benefactor, were always

informed by him, that presents of rare plants chiefly attracted his attention, and would be more acceptable to him than the most generous fees. How many unhappy men, enervated by the effects of hot climates, where their connexions had placed them, found health on their return home at that cheap purchase! What an infinite number of plants he obtained by these means, the large collection of drawings he left behind will amply testify; and that they were equalled by nothing but royal munificence, at this time largely bestowed upon the Botanic Gardens at Kew. In my opinion, no other garden in Europe, royal or of a subject, had nearly so many scarce and valuable plants. That Science might not suffer a loss when a plant he had cultivated should die, he liberally paid the best artist the country afforded, to draw the new ones as they came to perfection; and so numerous were they at last, that he found it necessary to employ more artists than one in order to keep pace with their increase. His garden was known all over Europe, and foreigners of all ranks asked, when they came hither, permission to see it; of which Dr. Solander and myself are sufficient witnesses, from the many applications that have been made through us for that permission."

The gardens at Upton were divided into two sections by a winding canal, which occasionally offered gleaming vistas of bright waters through the masses of rare shrubs that loaded its banks with foliage. Even in mid-winter, when the earth was heavy with snow, evergreens bloomed there in apparently perennial verdure. The visitor, without being exposed to the cold air, passed from the mansion-house into a suite of glass-roofed apartments, nearly 260 feet in length, which contained upwards of 3400 distinct species of exotic plants. In the open ground, about 3000 species bloomed on the return of summer.

While keeping in view the enlargement and recreation of his active and sagacious intellect, he nevertheless made

the welfare of humanity his principal object; and for this purpose carried out, at considerable expense, an interchange of natural products. Receiving from America various species of catalpas, kalmias, magnolias, firs, oaks, maples, which he naturalized at Upton, he transported in return his green and bohea tea-trees to the southern part of that continent. He endeavoured to improve the growth and quality of coffee in the West Indian Islands; and procured from China the bamboo-cane, with a view of introducing it into our inter-tropical possessions. He made several efforts to naturalize the cinnamon-tree in the West Indies. He attempted to import the cinchona tree, which furnishes Peruvian bark, and, it is said, so far succeeded as to have at last a specimen in his garden. To two captains of ships he offered each a reward of £100 for a living specimen of the true Winter's bark (*Winterana aromatica*). Nor did he confine his benevolent enterprise to the Vegetable Kingdom. He possessed the second best cabinet of shells, the Duchess of Portland being the only person who surpassed him. His collection of minerals, if not extensive, was very choice, and included numerous rare specimens from all parts of the world. He employed several artists in the delineation of those productions of Nature which were too bulky to transport, or too perishable to preserve. The number of these drawings at his death was twelve hundred; and the Empress of Russia became their purchaser for a sum of £2300. Dr. William Hunter bought his collection of Natural History, and it formed part of the Hunterian Museum which that illustrious physician bequeathed to the University of Glasgow.

The members of the Society of Friends have always been favourably known for their practical benevolence. Dr. Fothergill was no exception to this honourable rule. Charity, indeed, seems to have been the guiding principle of his life—its dominant motive. When he spent his summer

vacation at Lea Hall, in Cheshire, he devoted one day in every week to attendance at Middlewick, the nearest market-town, and dispensed gratuitous advice to the poor. To the clergy he gave not only medical counsel but pecuniary assistance. On one occasion, to a friend who blamed him for refusing a fee from a highly-placed dignitary, he said: "I had rather return the fee of a gentleman with whose rank I am imperfectly acquainted, than run the risk of taking it from a man who ought, perhaps, to be the object of my bounty." On making a final visit to a patient in reduced circumstances, he would frequently, while pretending to feel the pulse, slip into his hand a sum of money or a bank-note; in one instance, the donation amounted to as much as one hundred and fifty pounds. His public charities were without stint: few subscription lists appeared in which his name was not among the foremost. When our prisons were filled with captives taken in the victorious battles which raised the prestige of our arms during the administration of Pitt, he was an active member of the Committee appointed to raise a fund for their relief. The total amount of his bounties, public and private, has been estimated at £200,000; and though this must be an exaggeration, as his income could hardly have afforded so large a sum, yet there can be no doubt that his generosity was limited only by his means.

No scheme calculated to promote the public welfare seems to have escaped his benevolent purview. He gave his thoughts to every measure designed to improve our internal commerce, our police administration, the economy of our prisons; and he was so far in advance of his age on sanitary questions that he strongly advocated the establishment of public baths and public cemeteries. The celebrated Quaker's school at Ackworth was founded in a great measure through his energetic liberality. His large-hearted wisdom condemned the treatment to which the American Colonies had been subjected

by the Home Government; he was patriotically solicitous to compose the angry discord that had unhappily sprung up between the mother-country and her offspring; and Franklin, with whom he was engaged in political negotiations, declares that he doubts whether any man has ever existed more worthy than Fothergill of universal esteem.

In December, 1780, he was seized with a mortal illness. His sufferings were severe, but he retained his faculties to the last, and preserved the utmost serenity and cheerfulness of spirit. He expressed to a friend his hope "that he had not lived in vain, but in some degree had answered the end of his creation by sacrificing interested considerations and his own ease to the good of his fellow-creatures."

"The person of Dr. Fothergill was of a delicate, rather of an attenuated, make; his features were all character; his eye had a peculiar brilliancy of expression, yet it was not easy so to mark the leading trait as to disengage it from the united whole. He was remarkably active and alert, and, with a few exceptions, enjoyed a general good state of health. He had a peculiarity of address and manner, resulting from person, education and principle; but it was so perfectly accompanied by the most engaging attentions, that he was the genuine polite man, above all forms of breeding. At his meals he was remarkably temperate; in the opinion of some, rather too abstemious; eating sparingly, but with a good relish, and rarely exceeding two glasses of wine at dinner or supper; yet, by this uniform and steady temperance, he preserved his mind vigorous and active, and his constitution equal to all his engagements."

WILLIAM HUNTER, 1718-1783.

William Hunter, who lives in the historical records of Medicine as one of our first great English anatomists, was

born at Kilbride, a small village in Lanarkshire, on the 23rd of May, 1718. He was the seventh of the ten children of John and Agnes Hunter, who lived on a small family estate, called Long Calderwood; the tenth was John Hunter, afterwards famous as a surgeon and a physiologist. A sister married Dr. Baillio, the professor of Divinity in the University of Glasgow, and became the mother of the eminent physician of the same name: so that this obscure Scottish family contributed to the medical profession in England three of its most illustrious ornaments.

At the age of fourteen, William Hunter was sent to the University of Glasgow, where he studied for five years with a good deal of distinction. With the modest ambition found in so many Scottish families, his father had destined him for "the ministry"; but the young man's tastes went not in that direction, and making the acquaintance of Cullen, then in practice at Hamilton, he formed a strong desire to embrace his friend's profession. His parents consented; and he spent nearly three happy years under Cullen's roof (1737--1739). The two young men—Cullen was six years the elder—eventually entered into partnership, and agreed, in a spirit honourable to both, that, in order to improve their medical education, they should alternately study, during the winter, in some good medical school, the other remaining at home to carry on the business. Cullen took the first turn, and passed the winter at Edinburgh. Hunter, when his came round, chose London for his place of study; and applied himself with such ardour and intelligence that Dr. Douglas, the lecturer on anatomy and obstetrics, offered him a double engagement—as assistant to himself and tutor to his son. Rather than stand in his friend's way, Cullen immediately and voluntarily cancelled the articles; and though the two seldom met again, they carried on a frequent correspondence, and never ceased to entertain towards each other the most cordial sentiments of respect and esteem.

Hunter, as Dr. Douglas's assistant, had much practice in dissections, and to increase his experience he entered St. George's Hospital as a surgeon's pupil. Dr. Douglas died in 1742; but Hunter continued to reside in his family. In the following year he communicated to the Royal Society a paper "On the Structure and Diseases of Articulatory Cartilages." His thoughts and hopes then concentrated on the teaching of anatomy; and he began to prepare a collection of specimens to illustrate his lectures. At length, that opportunity which comes to every man capable of discerning and utilizing it, came to Hunter. In 1746, Mr. Samuel Sharpe gave up a course of lectures on surgical operations which he had begun at the instance of a society of naval surgeons, and recommended Hunter as his substitute. Hunter's lectures proved so successful, that he was invited to extend them to anatomy. At the outset he was nervous and anxious in the performance of his unaccustomed task; but success gave him confidence, and he soon learned to find "the principal happiness of life" in lecturing. To a man of full mind it is, I think, almost always a pleasure to distribute of his stores. One of his earliest pupils who accompanied Hunter home on the occasion of his introductory discourse, informs us that he received seventy guineas for admission fees, which he carried in a bag under his cloak, remarking that it was a larger sum than he had ever before possessed. The receipts for the first two courses were considerable; but he applied them with so generous a hand to the relief of his friends that, on the approach of the third season, he was compelled to delay a fortnight, because he had no funds to defray the cost of the necessary advertisements. This circumstance taught him a lesson of thrift which he never afterwards forgot, and was, no doubt, the initial cause of the large fortune which he accumulated.

In 1747 he was admitted a member of the Corporation of

Surgeons, and in the following spring accompanied one of his pupils on a Continental tour, in the course of which he met at Leyden the celebrated Albinus. He resumed his lectures in the winter. Hitherto he had practised both in surgery and obstetrics; but the former branch he discontinued as his reputation increased, and after his appointment as surgeon-accoucheur to the Middlesex Hospital (1748) and the British Lying-in Hospital. The death of Sir Richard Manningham and the retirement of Dr. Sandys, both eminent as accoucheurs, combined to decide Hunter to give particular attention to obstetrics; and his abilities, fine manners, and pleasing address secured him an immense popularity. The employment of "men-midwives," we may observe, is comparatively a recent innovation. The earliest instance does not seem to date further back than 1693, when Mademoiselle de la Vallière, the mistress of Louis XIV.—who had reasons for desiring secrecy—called in the eminent surgeon, Julian Clement. He attended her on subsequent occasions, and his success, it is said, popularized the new departure. In London the first teacher of obstetrics was Mowbray (about 1720), who established a lying-in hospital, to which students were freely admitted. He was followed by the Chamberlains; and by Saulin, who, by his skill and his lectures, raised the importance of this branch of the profession; though he is accused of having advertised to teach it in four lessons, and of having exhibited a paper lantern with the legend blazoned on it: "Midwifery is taught here for five shillings."

Hunter in 1750 obtained the degree of M.D. from the University of Glasgow; and about the same time took up his residence in Jermyn Street. In the following year he visited the home of his family, Long Calderwood, and renewed his intercourse with Dr. Cullen. The two friends were riding together one day, when Cullen remarked on the conspicuousness of Long Calderwood at a distance. "Well, if I live,"

exclaimed the great surgeon, "I shall make it still more conspicuous." In 1756 he became a licentiate of the College of Physicians. His advice was obtained when Queen Charlotte became pregnant in 1762; and two years later he was appointed physician-extraordinary to Her Majesty. The incidents in the life of a successful doctor are not frequently of a remarkable character; and in Hunter's case we are almost confined to an enumeration of dates, such as the publication of his "*History of an Aneurism of the Aorta*" in 1757; his appointment as a Fellow of the Royal Society in 1767, and as professor of Anatomy in the Royal Academy of Arts in 1768; and the appearance of his great work, with its beautiful plates, "*The Anatomy of the Human Gravid Uterus*," in 1775. In the preface he frankly acknowledges his obligations to his brother John for his assistance in the necessary dissections—an assistance given almost continuously from 1748 to 1760; but for many discoveries claimed by John the elder brother refused him credit, and, unhappily, an estrangement took place between them, which assumed considerable proportions. William Hunter refers to the dispute in the Supplement—published in 1777—to his "*Medical Commentaries*," published in 1762. "It is remarkable," he says, "that there is scarce a considerable character in anatomy, that is not connected with some warm controversy. Anatomists have ever been engaged in contention. And indeed, if a man has not such a degree of enthusiasm, and love of the art, as will make him impatient of unreasonable opposition, and of encroachments upon his discoveries and his reputation, he will hardly become considerable in anatomy, or in any other branch of natural knowledge.

"These reflections afford some comfort to me, who unfortunately have been already engaged in two public disputes. I have imitated some of the greatest characters, in what is commonly reckoned their worst part; but I have also endea-

voured to be useful ; to improve and diffuse the knowledge of anatomy ; and surely it will be allowed here, that if I have not been serviceable to the public in this way, it has not been for want of diligence, or love of the service.

“ It has likewise been observed of anatomists, that they are all liable to the error of being severe on each other in their disputes. Perhaps from being in the habit of examining objects with care and precision, they may be more disgusted with rash assertions and false reasoning. From the habit of guarding against being deceived by appearances, and of finding out truth, they may be more than ordinarily provoked by any attempt to impose upon them ; and for anything that we know, the passive submission of dead bodies, their common objects, may render them less able to bear contradiction.”

This last reason is a very extraordinary one ; and it is difficult to understand why a habit of cutting up the dead should make a man unable to bear contradiction by the living. The truth is, that William Hunter was of the temper which cannot tolerate two suns in one firmament, or two Alexanders in one hemisphere ; and he was reluctant to acknowledge the full merits either of his predecessors or contemporaries. In both the Hunters a strain of strong self-assertion was unfortunately predominant ; but, perhaps, without it they would hardly have been so successful. A man must have confidence in himself if he expects others to have confidence in him.

About two years before his decease, Hunter, beginning to feel the pressure of ill-health, hoped to recruit himself by a residence in Scotland, and with this view was preparing to purchase a considerable estate, when his intention was baffled by the discovery of a defect in the title-deeds. The check was sufficient to divert his mind from its rural yearnings, and he remained in London, daily growing weaker in body, but pursuing his favourite path of scientific research with all his

early ardour. He rose from a bed of sickness, in spite of the opposition of his friends, to deliver an introductory lecture upon surgical operations. It proved to be his last: towards the end of it his strength was so completely exhausted that he fainted, and had to be removed to his bed by two of his servants. This was on the 20th of March, 1783. On the 30th he was dead. It is satisfactory to relate that in his last hours he was affectionately attended by his brother John. They were hours of complete mental tranquillity; and he remarked to a friend who came to wish him farewell, "If I had strength enough to hold a pen, I would write how easy and pleasant a thing it is to die."

When Hunter had acquired a competency which assured him of a sufficient provision for old age or sickness, he resolved to devote the remainder of his fortune to some work of public utility, and formed the design of founding an anatomical school in London. During Mr. Grenville's administration, in 1765, he accordingly applied for the grant of a piece of ground in the Mews, on which he undertook to build an anatomical theatre at a cost of £7000, while he also promised a permanent endowment for a professorship of anatomy. British Governments had not then learned that it was any part of their duty to encourage art or science—they are not very active in this direction even now—and Hunter's request was refused. Lord Shelburne, it is true, expressed a desire that the scheme might be carried out by public subscription, and offered on his own part a donation of one thousand guineas; but Hunter declined to adopt the proposal, and having purchased a suitable site in Great Windmill Street, erected there a spacious house for his own residence, with convenient dissecting-rooms, theatre, and museum.

To fill this museum became the great passion of his life. He had already formed a very large collection of anatomical preparations, partly made by himself, and partly purchased

from the museums of Sandys, Falconer, and others, to which friends and pupils were constantly adding new specimens. He now enlarged his views, and began to acquire a fine library of Greek and Latin Classics; also a very valuable cabinet of ancient coins and medals. Minerals, shells, and other objects of natural history, collected by Dr. Fothergill, he bought in 1781 for £1200; so that, before long, William Hunter's Museum became the talk of Europe. By his will he bequeathed it to Dr. Baillie, his nephew, and in case of his death, to his assistant, Mr. Cruickshank, for a period of thirty years, after which it was to go to the University of Glasgow. And he left a sum of £8000 to the University as a fund for its proper maintenance and augmentation.

William Hunter was of a slender but well-made figure, and rather below the middle stature. His face, as portrayed by the magic pencil of Reynolds, shows a strong intelligence; there is resolution about the mouth and chin; and the eyes shine with a rare perceptiveness. The information which has come down to us in reference to his habits and character is unfortunately limited. He was an early riser; and, when his professional visits were concluded, was to be found in his dissecting rooms or in his museum. No man was more successful in obtaining the confidence of his patients—not alone on account of his skill and reputation, but the sympathy and interest with which he appeared to listen to their complaints. In consultation with his professional brethren, he was frank and modest; he carried his modesty also into his familiar conversation, which was varied and entertaining. His lectures were enlivened by apposite anecdote and illustration, which rendered them not less interesting to laymen than to students. In his household economy prevailed, but not parsimony. He was abstemious in his diet, and when he invited his younger friends to his table, seldom offered them more than a couple of courses. He himself was content with a single dish,

remarking, "A man who cannot dine on this, deserves to have no diuuer."

William Hunter was not "a man of ardent temperament," nor was he animated by the fire of genius; but he possessed a lucid intellect, a faculty of intense perseverance, and an absolute singleness of purpose—qualities which conducted him to eminence, as they have conducted many other fine spirits, whose aims have been moderate and their passions strictly regulated. Without self-control no man can be successful in any profession—least of all in a profession like the medical, in which the responsibilities are so many and the duties so onerous.

JOHN HUNTER, 1728-1793.

John Hunter was nearly ten years younger than his distinguished brother, having been born at Kilbride on the 13th of February, 1728. His father died when he was ten years old, leaving him to the charge of his mother, who treated him with unwise indulgence, and allowed him to neglect his studies, to his profound regret in after-life. When about seventeen he visited a married sister in Glasgow. Her husband was a cabinet-maker, and in his workshop the lad spent much of his time, acquiring a considerable mechanical aptitude. In due course he returned to Kilbride, and relapsed into his old habits of self-indulgence and idleness. Growing ashamed of this waste of time, he solicited his brother William, who was rapidly rising into distinction in London, to take him as his assistant in anatomy. William consented. John arrived in London in September, 1748, and at once asserted his usefulness by an excellent dissection of the arm to illustrate one of his brother's lectures. Accordingly, he was provided with work in William Hunter's dissecting-room in the winter, and in the summer "walked" Chelsea Hospital as a pupil of the illustrious Cheselden. His

talents had clearly found a fitting field for their exercise, and, in the winter of 1749, Dr. Hunter confined himself to his lectures, and made over to his brother the entire charge of the anatomical room. In 1751 John entered St. Bartholomew's Hospital as a pupil; in 1754 was a surgeon's pupil at St. George's; and in 1756 house-surgeon. In the interval he resided for a couple of months at St. Mary Hall, Oxford, intending, no doubt, to graduate in medicine; but he was driven away by the classical requirements of the University. About the same time he was associated with his brother in his lectures; but in this department his imperfect education prevented him from attaining success. Jesse Foot affirms that, at first, his lectures were written on detached pieces of paper; and "such was the natural confusion of his mind, that he would be frequently found incapable of explaining his own opinions, from his notes; and after having in vain endeavoured to recall the fugitive ideas, now no longer floating in the brain, nor obedient to the will; after having in vain rubbed up his face, and shut his eyes, to invite disobedient recollection—he would dismiss the subject."

There may be exaggeration in this statement, as Foot was John Hunter's bitter enemy; but it is certain that Hunter was as much a failure as a lecturer as he was a success as an anatomist. In the latter capacity he completely excelled his brother, and made on his own account some interesting and important discoveries, not wholly to his brother's satisfaction. Among these may be particularized the development of the branches of the fifth nerve, the ramifications of the olfactory nerves, the distribution of the arteries in the gravid uterus, and the existence of lymphatic vessels in birds. It was not easy, perhaps, for the two brothers to define their share in their anatomical researches with indisputable exactness. At all events, as I have already stated, on this subject some warm disputes arose; John Hunter complaining that his

brother did not render him full justice, while his brother contended that he asked for much more than was his due.

In the science of comparative anatomy, Hunter pushed his investigations with unfailing perseverance. He began with the common animals; then obtained the bodies of such animals as died in the Tower menagerie; made arrangements to secure from travelling exhibitions their dead stock; and bought up all the rare specimens of which he could obtain intelligence.

In 1761, in order to recruit his health and vary his experience, he joined, as staff-surgeon, the troops engaged in the expedition to Belleisle, and in 1762 was employed with the army in Portugal. After the peace of 1763, he returned to London, and began practice on his own account as a surgeon in Golden Square. As fees came in with mortifying slowness, he formed a class for the study of practical surgery and anatomy; but his deficiencies as a lecturer seriously militated against his success. Moreover, he was too apt to subordinate his professional engagements to his anatomical pursuits, which almost exclusively absorbed his enthusiasm and his energies. To his friend, Lynn, he said one day, as he turned to leave the dissecting-room, "Well, Lynn, I must go and earn this confounded guinea, or I shall be sure to want it to-morrow."

In time his collection of live animals grew too large for the narrow space which his London residence afforded; and he removed to Earl's Court, Brompton—then a pleasantly rural district—where he built himself a house, and surrounded the garden with cages and huts for the reception of his menagerie.

The present method of treating distorted and contracted joints by cutting through the tendons was originated by Hunter, who, in 1767, met with an accident by which he ruptured the tendon Achilles, and was thus led to study the best process for effecting a cure. In the same year he was elected F.R.S., and

in the following year, surgeon to St. George's Hospital. In 1770, his practice as a surgeon having largely increased, he removed to the house vacated by his brother in Jermyn Street, where he was able to accommodate resident pupils—among whom, by the way, was Dr. Jenner, a persevering and intelligent investigator, who won his confidence and affection. Limited means had hitherto kept him a bachelor; but in July 1771, at the age of forty-three, he found himself able to marry the lady to whom he had long been engaged, Miss Anne Home, sister of his subsequent pupil and associate, Sir Everard Home. Mrs. Hunter was distinguished by her refinement and many accomplishments. She was a musician as well as an artist; and her poetical gifts were above mediocrity. As the author of the charming little songs, "My mother bids me bind my hair," and "The season comes when first we met," she will always be remembered in our popular anthologies. She published a collection of her poems in 1806. Her married life was not, on the whole, an unhappy one; though between her husband and herself there was not so complete an accord of tastes and sympathies as could have been wished. And I think she had sometimes just cause for complaint, if the story be true that, on returning one evening from his day's professional engagements, and finding his wife's drawing-room thronged with her fashionable friends, he strode into their midst, and exclaimed: "I knew nothing of this kick-up, and I ought to have been informed of it beforehand; but as I am now returned home to study, I hope the present company will retire." Such a speech might be commended for its "brutal frankness," certainly not for its courtesy.

Some of the details recorded by Sir Everard Home show the great anatomist in a pleasanter light. Of his intense devotion to the science which had attracted him in his youth, and of his enormous capacity for work, Sir Everard furnishes many illustrations. He rose at half-past five or six,

and remained in the dissecting-room until nine, when he breakfasted. From breakfast until noon he received patients at home. His out-door patients occupied him until four, when he dined. After dinner he saw more patients, and then devoted his evenings to his favourite studies, or to meetings with his scientific friends. He was exceedingly abstemious at table, and it was only in his declining years that he indulged in a glass of wine. The time spent at table he seemed to regard as, in a great measure, wasted. Punctuality was with John Hunter almost a religion. At twelve precisely, however many patients might be waiting for his advice, he started to attend his consulting engagements. "These people," he said, "can take their chance to-morrow; but I have no right to waste the valuable time of other practitioners." Dinner, too, must be on the table exactly at four; or his displeasure was unmistakeably indicated. Any alteration of an engagement or failure to keep an appointment to the minute, provoked him beyond endurance. No one knew the value of time better than John Hunter, or acted more zealously upon that knowledge.

In 1772 he began to lecture on the theory and practice of Surgery, bringing to the illustration of its principles the sister sciences of physiology and comparative anatomy. Among his pupils were Abernethy, Cline, Carlisle, Chevalier, and Astley Cooper. He never got over his deficiencies as a lecturer; but, however indifferent the manner of his discourses, the matter was invaluable. The ideas he conveyed were those of a full and original mind; and it is unfortunate that the great gifts of exposition and expression had been denied him.

In January, 1776, his professional reputation and his unexcelled merit were recognized by his appointment as surgeon-extraordinary to the King. In the same year he delivered the first of his Croonian lectures, continuing them yearly (with the exception of 1777) until 1782.

The year 1773 was disagreeably marked by his first attack of *angina pectoris*. It was repeated in subsequent years, and from 1783 recurred very frequently. It was in 1783 that, his lease of the house in Jermyn Street having expired, he purchased the remainder of the lease of a house on the east side of Leicester Square, to which some vacant ground was attached. Upon this open space he proceeded to build, at a cost of upwards of £3000, a museum for his collection, with a lecture-room and other rooms beneath it.

In 1785 Hunter first tied the femoral artery in a case of popliteal aneurism—one of the greatest improvements in modern surgery. The operation seems to have been suggested by an experiment on the mode of growth of deer's antlers, to which I shall hereafter refer. In the following year he received the appointment of deputy-surgeon-general to the army; and, four years later, of surgeon-general and inspector of hospitals. In 1786 he gave to the world his great work on the Venereal Disease; and his "Observations on certain Parts of the Animal Economy" (chiefly founded on papers which he had contributed to the Royal Society). The Royal Society awarded him its Copley gold medal, in 1787, for his anatomical discoveries. Having been allowed to nominate Home as his assistant at St. George's Hospital, he had leisure to push forward his great work on the Blood, Inflammation, and Gun-shot Wounds (not published, however, until the year after his death).

It was in connection with St. George's Hospital the dispute occurred that proved the immediate cause of his sudden, though not unexpected, end. The *origo mali* was the pupils' fees. Towards young students John Hunter was always very liberal; and he would often take one-half, or one-fourth, of his fee, rather than involve a young man in debt and difficulty. But between his fellow-surgeons and himself the friction was exceedingly great. Their ignorance of physiology

was to him a continual offence; while to them his insistence upon its study was a new-fangled absurdity.

In 1792, when one of his colleagues, Charles Hawkins, resigned the surgeoncy, he put forward Home as a candidate for the vacancy; but the surgeons gave their votes by a large majority to Keate, then assistant to Gunning, the senior surgeon. Hunter, waxing furious, declared that he would no longer divide with his colleagues the fees received for the surgeons' pupils, asserting that they neglected their duty. It was strongly denied that he had any right to do this; and the question at issue was referred to the subscribers to the hospital—to whom Hunter addressed a long letter before the day of meeting in March, 1793, describing the efforts he had made, in vain, to induce his colleagues to improve the system of instruction; that, therefore, he had relaxed his own exertions, with the result that the number of students had greatly diminished. His colleagues replied that they had carried out the original plan, and that if students had preferred their physiological duties to hospital practice, the fault was not theirs. They added that Mr. Hunter attracted a larger number of pupils than they did, not from superior teaching, but because he was connected with the Windmill Street Anatomical School, and because his official position enabled him to confer posts in the army. And they concluded by demonstrating that it would be a great disadvantage if a pupil were instructed by one surgeon and not by all four. In the end, the decision of the Governors was against Hunter, on the ground that his plan would eventuate in discord and confusion. A committee drew up rules for the admission and government of pupils which, unfortunately, were adopted without asking Hunter's opinion.

The dispute would hardly be worth chronicling were it not for its fatal issue. Hunter's health at this time was in a critical state; the diseased heart could scarcely perform its

work; and he himself remarked that his life was in the hands of any rascal who chose to annoy and tease him. It happened that two young men had come up from Scotland, in ignorance of the now rules and regulations, and having been recommended to Hunter, he promised to press for their admission at the next Board meeting, which was fixed for the 16th of October, 1793. The day came; and in the morning Hunter observed to a friend that he hoped no quarrel would take place, as he felt sure it would end his life. When he arrived at the hospital, he found the Board already assembled, and presented and supported his memorial. During his address he was contradicted by one of his colleagues. He ceased speaking immediately, and with a violent effort at self-control, hastened into an adjoining room, where, with a deep groan, he fell lifeless into the arms of Dr. Robertson, one of the hospital physicians. Dr. Baillie, his nephew, and Everard Home, made every effort to restore him, but all in vain; and the great surgeon's dead body was carried home, to be interred, on the 22nd, with great simplicity at St. Martin's-in-the-Fields.

Six years after his death, his valuable museum, which had cost him £70,000, was purchased by Parliament for £15,000. Its custody was declined by the College of Physicians, but undertaken by the College of Surgeons, which then acquired the title of "Royal," and was granted a new charter. A condition imposed by Government was that at least twenty-four lectures annually, on comparative anatomy and cognate subjects, should be given by members of the College. These are the well-known Hunterian lectures. A suitable habitation for the museum was erected in Lincoln's Inn Fields, towards the cost of which Parliament at various dates has contributed £42,500.

On the 28th of March, 1829, his remains, through the exertions of the late Frank Buckland, were removed to the

Islip Chapel in Westminster Abbey, and deposited in the north aisle of the nave, near Ben Jonson's tomb.

Of the intellectual power and life-work of John Hunter the following estimate has been put on record by one well qualified to form an accurate judgment, Sir James Paget* :—

“The range of Hunter's work matched with the time devoted to it. Never before or since—I think I am safe in saying this—was any one a thorough investigator and student in so wide a range of sciences. He was an enthusiastic naturalist; as a comparative anatomist and physiologist he was unequalled in his time; among the few pathologists he was the best; among the still fewer geologists and students of vegetable physiology, he was one, if not the chief; and he was a great practical surgeon. He was surgeon to a large hospital in London, and for many years held the largest practice in the metropolis. In all these things at one time no one but Hunter ever was eminent and successful.

“There is not one of them in which he did not make investigations wholly original—not one of them of which he did not enlarge the area very far beyond that which had been covered by his predecessors—not one of them in which he did not leave facts and principles on record which it is impossible to correct and very hard to estimate.

“In all these characters of Hunter's works we see that which was the dominant character of his mind—massiveness and grandeur of design were indicated in all to which he applied himself. And in perfect harmony with this was the simplicity of his ordinary method of work. It consisted mainly in the orderly accumulation of facts from every source, of every kind, and building them up in the simplest inductions. If he had been an architect, he would have built hugo pyramids, and every stone would have borne its

* *Medical Times and Gazette*, February 17, 1877.

own inscription. He knew nothing of logic or the science of thought. He used his mental powers as with a natural instinct. He worked with all his might, but without art. I know no instance so striking as in him of the living force which there is in facts when they are stored in a thoughtful mind.

“But Hunter was not only a great observer, he was a very acute one. I think it would be difficult to find in all the masses of facts which he has recorded any one which was either observed or recorded erroneously. If there are errors in his works, they are the errors of reasoning, not of observation. And it may be noted, as a singular example of his accuracy, that when he tells his inferences it is generally with expressions implying that he regarded them as only probable: a fact he tells without condition; when he generalises, it is with ‘I suspect,’ ‘I believe,’ ‘I am disposed to think,’ or thus like. . . .

“He seems to have thought he had never reached farther than the nearest approach to truth which was at that time attainable, and that a year or more of investigation would bring him nearer to the truth, and then that which now seemed right would be surpassed or set aside. He used to say to his pupils in his lectures, ‘Do not take notes of this; I daresay I shall change it all next year.’”

It was fitting that the man who penned this noble eulogium should be chosen, when the statue erected to John Hunter's memory by royal munificence was unveiled this year at Oxford, to deliver the customary address. And it was well that the great anatomist's services to science should thus be recalled to the recollection of a public which, in its eagerness for new things, is apt to become unmindful of its obligations to the past. Perhaps it is not easy for the unprofessional mind to realize all that he accomplished, and accomplished under unfavourable conditions and with

limited means of research. But, probably, most of us remember John Hunter's part in the establishment of the great anatomical museum in Lincoln's Inn Fields which bears his name. Most of us remember the story of the labour and difficulty with which he carried out his object; how perseveringly he sought for exceptional cases which he might preserve for educational purposes; how at one time he eagerly pursued the carcase of a tiger which had died in a menagerie; how at another he endeavoured to obtain the body of the giant Pat Byrne, to whom his friends were fain to give decent sepulture; how at another he was attracted by some strange abnormality in the way of animal growth. He was a man with a wonderful tenacity, an equally wonderful industry; and he possessed that keen eye for the minutest details which marks the great discoverer. Sir James Paget illustrates this feature of his character by a quaint example. In a letter to his old pupil, Dr. Jenner, the discoverer of vaccination, he writes, in acknowledgement of a gift of the well-known Gloucestershire product:—"Dear Jenner, You must think me very fond of fish, when you even send me cheese as much fishified as possible. However, it is an excellent cheese, and every country has laid claim to its birth." Here ends the cheese; in the next sentence scientific inquiry comes to the front:—"I have but one order to send you," he adds, "which is, send every thing you can get, whether animal, vegetable, or mineral, and the compound of the two, namely, animal or vegetable mineralized." He had turned his attention to fossils, and Richard Owen assures us that in his writings occur some really remarkable forecasts of modern palæontological discoveries.

The vigour and originality of his intellect enabled him to break through the professional conventionalities which, in those days, were much stronger than they are at present. On one occasion Jenner writes to him respecting a case of

apparently malignant growth from which a patient of his is suffering. "I would have you do nothing with the boy," replies Hunter, "but dress him [his ailment] superficially; these fungus's will die and be d——d to them, and drop off." Excellent advice—though emphasized in a manner shocking to polite ears. The treatment of aneurism—a disease which consists in an expansion of one or more of the coats of certain blood-vessels—was revolutionized by John Hunter. A seemingly hopeless case of this malady had been entrusted to his care. It affected the great main vessel of the leg, and the only resource in those days was amputation. But Hunter had previously been experimenting upon the growth of antlers in the deer of Richmond Park. One of the vessels supplying the growing antler with nutrition had been tied. The nutritive supply being withheld, the antler became cold, and to all appearance was in a dying state. To Hunter's astonishment, in a week or two it recovered warmth, and showed signs of returning vitality. Growth was actually resumed; and this, on examination, proved to be due to the fact that the vessels above and below the site of the ligature had enlarged, and, consequently, the circulation had ingeniously been re-established. Hunter immediately applied this fact to the case of an aneurism, and saw how it might be utilized to the saving of life and limb. The operation was as successful as he could have hoped, and thenceforward his mode of treatment was universally adopted.

Our modern specialists, who spend a lifetime on some obscure point of research, may borrow a hint from the wide range of Hunter's studies. In the letter to Jenner already quoted, after dealing with "fungus's," he diverges into a very different branch of science. "Have you," he says, "any large trees of differ't kinds that you can make free with? If you have, I will put you upon a set of expt's with regard to the heat of vegetables?" And he adds, "Have you any caves where batts go at night?" The "batts" were also to be

made the subject of "expt's" in relation to temperature. But there was nothing in the whole field of scientific investigation which came amiss to John Hunter, and very little from which his vigorous and alert intellect did not deduce some practical result.

"John Hunter," says Macilwain, "began a beautifully simple, and, in its bearings on surgery, we may add, a new mode of inquiry. He saw that there was much in all animals that was common, and that there were analogies in the whole organic kingdom of nature; hence he sought to develop, by observation of the various processes in various animals, and their nearest analogies in vegetables also, the real nature of various phenomena in man. It was not that he did that which had never been attempted before in the abstract, but that he undertook it with a new, a concentrated unity of purpose. He did not employ, as it were, a different instrument to collect the rays of light from surrounding nature; but he concentrated them into a focus on a different object—the nature and treatment of disease. His labours, though not permitted to endure for many years, interrupted by indisposition, and suddenly stopped by death, were abundantly fruitful, and enabled him to simplify much of surgery that was officious and hurtful, and to correct many errors. He first gave a reason for this or that proceeding, founded on actual observation of natural processes; thus, in healing of wounds, the natural and healthy were distinguished from unnatural and unhealthy processes, and so forth. But as Mr. Hunter's enlarged views taught him the value of the relations observable throughout the whole animal creation, he contemplated parts of the body only as a step to the more successful observation of the whole. As before stated, he observed the phenomena exhibited by the various organs, both separately and in connection; traced them with elaborate circumspection, and concluded by justifying what Abernethy said, when he observed: 'Hunter

proved that the whole body sympathized with all its parts.' " *

The Queen's recent gift of John Hunter's statue to Oxford University has justly been characterized as a "graceful act, which will shine forth even amidst many other favours of a like kind. Whoever may be forgotten in the rush of modern life and toil, it behoves us out of gratitude 'for favours received' in many departments of knowledge, to keep John Hunter's memory green." Had God seen fit to give him the gift of eloquent or fluent expression, as well as those rare endowments of keen perception, great analytical power, fertility of resource, and grasp of view, he would probably have surpassed the most eminent masters of medical science. But it is strange enough and suggestive enough that this faculty was denied him; that his genius was to a large extent inarticulate; and that it was only with painful effort he succeeded in giving form and shape to his ideas, and even then, with an imperfection and an obscurity which prevented them from obtaining full and ready recognition.†

* In one of Sir James Simpson's letters an interesting reference occurs to this great surgeon. "Called on Mr. Owen," he writes, "at the College of Surgeons. Mr. Owen showed me a collection of beautiful drawings belonging to Mr. Hunter, which Sir Everard Home had never got his hands upon. . . . They contain many things in comparative anatomy which have been published in France and Germany of late years as new and great discoveries; for instance, the circulating and respiratory organs of the *holothuria*, for the discovery of which Tiedmann was crowned by the French Institute—the different epochs of the development of the heart and brain (dated 1782, and before Wolfe), the dissection of the eye of the cuttle-fish and of the viscera of mollusca (prettier drawings than Cuvier's). What a gigantic labourer in the field of science Hunter must have been! He began his studies late in life, and did not live till an advanced age; but still he seems to have found time to turn his attention to every branch of natural and pathological science, and whichever branch he did meddle with, came forth renovated and improved from his magic touch."—*Life of Sir James Simpson*, by Dr. Duns, p. 62.

† *Life of John Hunter*; *Lives of British Physicians*; Dr. BOSTOCK *Cyclopædia of Practical Medicine*; *Encyclop. Brit.*, art. *John Hunter*; etc

EDWARD JENNER, 1749-1823.

“Among all the names which ought to be consecrated by the gratitude of mankind, that of Jenner stands pre-eminent : it would be difficult, we are inclined to say impossible, to select from the catalogue of benefactors to human nature, an individual who has contributed so largely to the preservation of life, and to the alleviation of sufferings. Into whatever corner of the world the blessing of printed knowledge has penetrated, there also will the name of Jenner be familiar ; but the fruits of his discovery have ripened in barbarous soils, where books have never been opened, and where the savage does not pause to inquire from what source he has derived relief. No improvement in the physical sciences can bear a parallel with that which ministers, in every part of the globe, to the prevention of deformity, and, in a great proportion, to the exemption from actual destruction.”

This quotation fairly expresses the general opinion of civilized mankind in reference to Jenner's labours. No one who knows the fell destructiveness of small-pox in the days before his immortal discovery—the victims it slew—the victims it mutilated and disfigured—will deny that he should for ever receive the warmest gratitude of humanity. To him should be paid as great a tribute of honour and admiration as that which we so willingly give to the inventors who multiply capital. Every family which grows up into maturity unscathed by the pestilence should murmur his name with thankful lips. His genius it was—his perseverance—his noble unselfishness—which delivered his fellows from an enemy more insidious, more constant, and more deadly than the plague. For the plague came only at wide intervals, and swept over restricted areas ; the small-pox never intermitted its attacks, and claimed its victims in every locality. The wealthy were no more safe from it than the very poor ; the young fell a prey to it as

readily as the old. In a few hours it made beauty hideous to look upon, and reduced strength to the helplessness of an infant.

The father of this illustrious philanthropist was the Rev. Stephen Jenner, Vicar of Berkeley, in Gloucestershire, the representative of an ancient and opulent family. Edward Jenner, his third son, was born in the vicarage on the 17th of May, 1749. When he was about five years old, his father died; and the charge of his education fell to his eldest brother, who sent him to school at Cirencester. Of his boyhood no particulars are preserved, except that he showed a strong inclination for the study of natural history, and spent his play-hours in collecting fossils. At the age of thirteen he was apprenticed to a Mr. Ludlow at Sudbury, near Bristol, to be instructed in the elements of surgery and pharmacy. Thence he went to London, and for two years had the good fortune to reside, as a pupil, under the roof of John Hunter, who cordially recognized his abilities and treated him with the fullest confidence. A warm friendship sprang up between them, based upon a similarity of tastes and pursuits, and a respect for each other's character. His residence with Hunter opened up to the young man exceptional opportunities for study and inquiry, of which he made the fullest use; in Hunter's Brompton menagerie he was able to gratify his love of natural history, and prosecute his investigations into the habits and organization of animals. He was no dilettante student, and he excelled as a practical anatomist: in the dissection of tender and delicate organs, and in minute injections, he was almost without a rival, displaying the various parts with equal accuracy and elegance. He was recommended by Hunter as specially competent to arrange and classify the rich collection which Sir Joseph Banks had brought back from Captain Cook's celebrated voyage of discovery in 1771; and discharged his task so successfully that he was offered the appointment of Naturalist in Cook's second expedition, which

sailed in 1772. This, however, he declined, as well as other flattering proposals, from a strong desire to settle in his native place; attracted partly by his grateful affection for his elder brother, who had stood towards him *in loco parentis*, and partly by his deep-seated love of rural sights and sounds, for his love of the country, and of country life, amounted to a passion.

He returned accordingly to Berkeley, and took up his residence with his brother Stephen, in 1773. He was gifted, however, with too keen and lively an intellect, his powers of observation and reflection were too copious, his interests too many and too various, for him to fall into the narrow groove of the ordinary country practitioner. He kept up an active correspondence with Hunter on subjects of natural history and physiology, deviating sometimes into criticisms upon art; and he formed with much ardour an extensive collection of zoology and comparative anatomy. His practice rapidly increased; for his amiable and polished manners, and his multifarious stores of information, made him a popular and distinguished figure in the highest social circles of his district. The long rides which his professional engagements necessitated were eagerly shared by those who had been fortunate enough to make his acquaintance: nor were they ever weary of listening to his vivid and picturesque conversation, inspired as it was by his profound love of nature and art, and enriched by his ample knowledge.

His intimate friend, Mr. Edward Gardner, thus describes Dr. Jenner at this period of his life:—"His height," he says, "was under the middle size, his person was robust, but active and well formed. In his dress he was peculiarly neat, and everything about him showed the man intent and serious, and well prepared to meet the duties of his calling. When I first saw him, it was on Frampton Green. I was somewhat his junior in years, and had heard so much of Mr. Jenner, of

Berkeley, that I had no small curiosity to see him. He was dressed in a blue coat and yellow buttons, buckskins, well-polished jockey boots, with handsome silver spurs; and he carried a smart whip with a silver handle. His hair, after the fashion of the times, was done up in a club, and he wore a broad-brimmed hat.

"We were introduced on that occasion, and I was delighted and astonished. I was prepared to find an accomplished man, and all the country spoke of him as a skilful surgeon and a great naturalist; but I did not expect to find him so much at home on other matters. I, who had been spending my time in cultivating my judgment by abstract study, and smit from my boyhood with the love of song, had sought my amusement in the rosy fields of imagination, was not less surprised and gratified to find that the ancient affinity between Apollo and Æsculapius was so well maintained in his person."

All authorities agree in praising Jenner's conversational powers. His humour is spoken of as most enlivening and descriptive, while it was entirely free from ill-nature, indecorousness, or impurity. In these respects he was, as Izaak Walton puts it, neither beholden to the devil nor his own corruptions, but kept clear of both. His sympathies were eminently refined and artistic. He was fond of music, and particularly of the violin and flute. Poetry had a great attraction for him, and in his intervals of relaxation he frequently attempted, and not without some success, poetical composition. "In his latter years," says Dr. Baron, his biographer, "after his renown had filled the world, and after the many cares attendant on vaccination had often weighed heavy upon him, I have seen him shake them entirely off, take up a humorous strain, and sing one of his own ballads with all the mirth of youthful life." His verses are unquestionably very easy and elegant, though never rising to the

true poetic standard. What most distinguishes his more serious efforts is their loving and exact observation of nature. His pleasant rhyming catalogue of the "Signs of Rain" generally finds a place in our popular anthologies; but the "Address to a Robin" is not so well known, and will bear quotation:—

"Come, sweetest of the feathered throng!
And soothe me with thy plaintive song;
Come to my cot, devoid of fear,
No danger shall await thee here.
No prowling cat, with whiskered face,
Approaches this sequestered place;
No school-boy, with his willow-bow,
Shall aim at thee a murd'rous blow;
No wily limed twig ere molest
Thy olive wing or crimson breast:
Thy cup, sweet bird! I'll duly fill
At yonder cressy, bubbling rill;
Thy board shall plenteously be spread
With crumblets of the nicest bread:
And when rude winter comes, and shows
His icicles and shiv'ring snows,
Hop o'er my cheering hearth, and be
One of my peaceful family:
Then soothe me with thy plaintive song,
Thou sweetest of the feathered throng!"

This is obviously enough the outcome of a refined taste and accomplished mind; though, I admit, there is nothing in it to lead one to a belief that if Jenner had not been a great doctor he might have become a great poet.

In March, 1788, when he was in his fortieth year, he married Miss Catharine Kingscote, a lady who seems in all respects to have been a fitting helpmate for him. And about the same date he contributed to the "Transactions" of the Royal Society a very interesting paper on the Cuckoo, in which for the first time the curious habits of the bird were described with accuracy.

The work of a general practitioner in the country is very arduous ; and in order to relieve himself of a portion of his labours, by practising only as a physician, Jenner, in 1792, obtained the degree of M.D. from the University of St. Andrew's. Two years later, he narrowly escaped with life from a dangerous attack of typhus fever. Had it proved fatal, his name would have missed the glory which now surrounds it from his great discovery.

To the ravages of small-pox, and the possibility of finding some preventive, Jenner had long given his attention. It is likely enough that his thoughts were inclined in this direction by his remembrance of the sufferings inflicted upon himself by the process of inoculation. Through six weeks that process lingered. He was bled, purged, and put on a low diet, until this "barbarism of human veterinary practice" had reduced him to a skeleton. He was then exposed to the contagion of small-pox. Happily, he had but a mild attack ; yet the disease itself, and the inoculating operations, were probably the causes of the excessive sensitiveness which afflicted him through life.

When Jenner was acting as a surgeon's articled pupil at Sudbury, a young countrywoman applied to him for advice. In her presence some chance allusion was made to the universal disease, on which she remarked : "I shall never take it, for I have had cow-pox." The remark induced him to make inquiries ; and he found that a pustular eruption, derived from infection, appeared on the hands of milkers, communicated from the teats of cows similarly disordered ; and that this eruption was regarded as a safeguard against small-pox. The subject occupied his mind so much that he frequently mentioned it to John Hunter ; and the great surgeon occasionally alluded to it in his lectures, but never seems to have adopted Jenner's idea that it might suggest some efficacious substitute for inoculation. Jenner, however, continued his

inquiries, and in 1780 confided to his friend, Edward Gardner, his hope and prayer that it might be his work in life to extirpate small-pox by the mode of treatment now so familiar under the name of Vaccination.

An interesting anecdote is preserved in one of Jenner's note-books. "I know of no direct allusion to the disease in any ancient writer, yet the following seems not very distinctly to bear upon it. When the Duchess of Cleveland was taunted by her companions, Moll Davis (Lady Mary Davis) and others, that she might soon have to deplore the loss of that beauty which was then her boast, the small-pox at that time raging in London: she made a reply to this effect—that she had no fear about the matter, for she had had a disorder which would prevent her from ever catching the small-pox. This was lately communicated by a gentleman in this country, but, unfortunately he could not recollect from what author he gained this intelligence."

At the meetings of the Alveston and Radborough Medical Clubs, of both of which Jenner was a member, he so frequently enlarged upon his favourite theme, and so repeatedly insisted on the value of cow-pox as a prophylactic, that it was denounced as a nuisance, and it was even proposed, in jest, that if the orator further sinned he should then and there be expelled. Nowhere could the prophet find a disciple to take up his parable, and enforce it upon the ignorant; like most great benefactors of mankind, he had to do his work unaided. Patiently and perseveringly he pushed forward his investigations. The aim he had in view was too great for ridicule to daunt, or indifference to discourage him. When he surveyed the mental and physical agony inflicted by the disease, and the thought occurred to him that he was on the point of finding a sure and certain remedy, his benevolent heart overflowed with unselfish gladness. No feeling of personal ambition, no hope or desire of fame, sullied the

purity of his noble philanthropy.—“While the vaccine discovery was progressive,” he writes, “the joy I felt at the prospect before me of being the instrument destined to take away from the world one of its greatest calamities, blended with the fond hope of enjoying independence, and domestic peace and happiness, were often so excessive, that, in pursuing my favourite subject among the meadows, I have sometimes found myself in a kind of reverie. It is pleasant to me to recollect that those reflections always ended in devout acknowledgments to that Being from whom this and all other blessings flow.”

At last an opportunity occurred of putting his theory to the test. On the 14th of May, 1796—the day marks an epoch in the history of the Healing Art, and is not less worthy of being kept as a national thanksgiving day than the day of Waterloo—the cow-pox matter or *pus* was taken from the hand of one Sarah Nolmes, who had been infected from her master’s cows, and was inserted by two superficial incisions into the arms of James Phipps, a healthy boy of about eight years old. The cow-pox ran its ordinary course without any injurious effect, and the boy was afterwards inoculated for the small-pox—happily, in vain. The protection was complete; and Jenner thenceforward pursued his experiments with redoubled ardour. His first summary of them, after having been examined and approved by several friends, appeared, under the title of “An Inquiry into the Causes and Effects of the Variolæ Vaccinæ,” in June, 1798. In this all-important work he announced the security against small-pox afforded by the true cow-pox, and proceeded to trace the origin of that disease in the cow to a similar affection of the horse’s heel.

We need not dwell upon the disappointments and difficulties that delayed the acceptance of Jenner’s great discovery; nor recall the names of the fools, the fanatics, and

the jealous rivals, who either openly or insidiously opposed it. Many of the more enlightened of the profession received it at once with gratitude: among them the eminent surgeon, Mr. Cline,* who strongly advised Jenner to leave his rural seclusion and settle in Grosvenor Square, promising him an income of £10,000 a year as the fruits of his practice. But the prospect of wealth had no charm for the sensitive and modest physician, whose only ambition was to benefit his fellow-men. "Shall I," he wrote, "who even in the morning of my days sought the lowly and sequestered paths of life, the valley, and not the mountain—shall I, now my evening is fast approaching, hold myself up as an object for fortune and for fame? Admitting it as a certainty that I obtain both, what stock should I add to my little fund of happiness? My fortune, with what flows in from my profession, is sufficient to gratify my wishes; indeed, so limited is my ambition and that of my nearest connexions, that were I precluded from further practice I should be enabled to obtain all I want."

Vaccination began on the 21st of January, 1799, and spread so rapidly that in the following summer, thirty-three of the leading London physicians and forty leading surgeons published an earnest expression of their confidence in the efficacy of Jenner's discovery. Lady Frances Morton (afterwards Countess of Ducie) was the first lady of rank who caused her children to be vaccinated; but her example was immediately followed in the most distinguished households. The Royal Family did all in their power to encourage Jenner, who, in March, 1800, was introduced successively to the King, the Queen, the Prince of Wales, the Duke of York, and the Duke of Clarence, all of whom vied with one another in paying him the honourable attention he so well merited.

* It was Cline who performed the first successful vaccination in London.

To appreciate rightly the full extent of the blessing which he had conferred upon humanity, it is necessary for us to remember a few important statistical facts. In London, in 1723, one out of fourteen deaths was caused by small-pox, and in France, in 1754, one in ten. It was computed that in the middle of the century, two million victims perished in the Russian empire in a single twelvemonth. But this is not all; we must recollect that the survivors bore for life severe marks of the affliction they had undergone, and that a considerable number lost their eyesight. There were few families in England, of which at least one member did not show in only too painful a manner the terrible character of the disease.

Vaccination was introduced into Scotland by Professor Gregory, assisted by Sir Matthew Tierney. Professor Waterhouse, of Cambridge, Massachusetts, introduced it into the United States; where, in 1801, President Jefferson, with his sons-in-law, vaccinated in their own families and those of their friends nearly two hundred persons. It was quickly adopted in Spain; and in France, Napoleon gave another proof of his far-reaching sagacity by his immediate recognition of the importance of the Jennerian remedy. So profound was his admiration of the great physician that, at his request, he released Dr. Wickham, then a prisoner of war, and subsequently several English families, declaring that he could refuse Jenner nothing which he asked. In Italy Dr. Sacco, of Milan, adopted vaccination with the most thorough confidence; and Dr. De Curco introduced it into Vienna, where its beneficial results were displayed on a striking scale; for previously, the average yearly mortality from small-pox had been about 835; and the number fell to 164 in 1801, 61 in 1802, and 27 in 1803.

The claims of Jenner upon the public gratitude were too large to be ignored, and the House of Commons appointed a

Committee to inquire into their extent, and the best form of acknowledgment. This Committee recommended that a sum of £20,000 should be paid as remuneration; some opposition, however, was offered to their proposal, and eventually the House voted a grant of £10,000 (1802). In 1807, with a wiser liberality, Parliament awarded an additional sum of £20,000. In or about the same year the National Vaccine Establishment, which was founded by the Government in order to ensure a supply of vaccine matter, was placed under his immediate direction. Honours were showered upon him by nearly all the sovereigns of Europe, as well as by the principal learned bodies. No statue was erected, however, until 1858, when one was placed in Trafalgar Square, the cost being defrayed by subscriptions from all nations. It is now to be seen at South Kensington.

In 1813 the degree of M.D. was conferred upon Jenner by the University of Oxford; but the London College of Physicians disgraced itself by refusing to admit him to its membership until he had passed a full examination—a condition to which a man of Jenner's eminence could hardly be expected to submit. On the 13th of September he lost his wife—an affliction which greatly prostrated him, and led to his early withdrawal from the anxieties and cares of public life, to spend his remaining years amidst his favourite pursuits, and in the study of every detail connected with the progress of vaccination. The nervous sensitiveness which had always characterized him increased to a painful extent in his old age; and he sustained several attacks or injuries of a dangerous nature. He died of apoplexy on the 26th of January, 1823, and was buried by his wife's side in Berkeley churchyard.

The medical profession may have produced many a greater, but never a better man; nor, with the exception of the discovery of anæsthetics, has any of its members rendered

to humanity a service of equal importance to that which Jenner rendered. Yot was he modesty itself—he was as simple and as unassuming as a child. Pride was wholly unknown to him; vanity never came within the range of his consciousness. He never thought of himself, or of possible fame or fortune; bnt of others, and the good he might do them. “All the friends who watched him longest,” says his biographer, “and have seen most of his mind and of his conduct, with one voice declare that there was a something about him which they never witnessed in any other man. The first things that a stranger would remark were the gentleness, the simplicity, the artlessness of his manner. There was a total absence of all ostentation or display; so mnch so, that in the ordinary intercourse of society he appeared as a person who had no claims to notice. He was perfectly unreserved, and free from all guile. He carried his heart and his mind so openly, so undisguisedly, that all might read them. You could not converse with him, yon could not enter his house nor his stndy, without seeing what sort of man dwelt there. . . .

“The objects of his studies generally lay scattered around him; and, as he nsed often to say himself, seemingly in chaotic confusion. Fossils, and other specimens of natural history, anatomical preparations, books, papers, letters—all presented themselves in strange disorder; bnt every article bore the impress of the genius that presided there. The fossils were marked by small pieces of paper pasted on them, having their names and the places where they were found inscribed in his own plain and distinct handwriting. . . .

“He seemed to have no secrets of any kind; and, notwithstanding a long experience with the world, he acted to the last as if all mankind were trustworthy, and free from selfishness as himself. He had a working head, being never idle, and accnmulated a great store of original observations. These treasures he imparted most generously and liberally.

Indeed, his chief pleasure seemed to be in pouring out the ample riches of his mind to every one who enjoyed his acquaintance. He had often reason to lament this unbounded confidence; but such ungrateful returns neither chilled his ardour nor ruffled his temper."

One or two facts in reference to the progress of vaccination may be added:—

In 1853 vaccination was made compulsory in England, and in Scotland and Ireland two years later. The laws bearing upon it were consolidated and amended in 1867, and again amended in 1871.

As a prophylactic it has not been universally successful. Small-pox is *not* extirpated, but frequently reappears with an epidemic character, and carries off many victims, though their number will not for a moment bear comparison with the terrible totals of deaths which prevailed before Jenner's discovery. In London, for instance, small-pox broke out with a good deal of virulence in the latter half of 1880 and the first half of 1881, but the total of deaths was only 1532 in a population of twenty-four millions, and of these 1532, 537 had not been vaccinated. The occasional failure of vaccination would seem to be due to the use of inferior vaccine matter, or because the operation has been imperfectly carried out. In the immense majority of cases it is quite successful, though it seems advisable to re-vaccinate at intervals. Dr. Sexton affirms, however, that "one thoroughly good primary vaccination to start with, and one careful re-vaccination after puberty, are all that is necessary for the complete security of the population against small-pox."

The worst and most imperfect vaccination is estimated to be forty-seven times better than none at all, and the best vaccination is more than thirty times as effective as the worst. Out of 11,000 cases of small-pox it has been found that the

unvaccinated die at the rate of 37 per cent, while the vaccinated die at the rate of only $6\frac{1}{2}$, and of these the thoroughly vaccinated, showing four or more cicatrices, represent no more than 0·55.

CALEB PARRY, 1755-1822.

Caleb Hillier Parry was born at Cirencester on the 21st of October, 1755. He came of a good stock: his father, the Rev. Joshua Parry, the representative of an ancient Pembroke-shire family, was a fine classical and Hebrew scholar, the friend of Bathurst, Hawkesworth, Doddridge, Tucker, and "Commentator" Scott, and one of the earliest contributors to Sylvanus Urban; his mother, the heiress of the Hilliers, was a woman of much force of character and strength of mind.

Young Parry was instructed in "the elements" by the Rev. Mr. Washbourne, at Cirencester, where one of his school-fellows was Edward Jenner, the future discoverer of vaccination. The friendship formed between the two developed into a life-long intimacy. In 1770 he was removed to the then celebrated academy at Warrington, where he added Dr. Aikin to his list of friends. His tutor, Dr. Enfield, of "The Speaker," spoke of him as possessing an exceptional share of manly sense, calmness of temper, and philosophical firmness of mind, and added that his genius, his disposition, and his application, all promised great things. With these favourable credentials at his back, he went to Edinburgh, in 1773, to begin his studies for the medical profession. From 1775 to 1777 he spent most of his time in London, under Dr. Duncan; but he returned to Edinburgh in the latter year, and in June, 1778, when twenty-three years of age, took his degree. Four months later he was married to an accomplished and amiable young lady, Miss Rigby, who had had the honour of inspiring some of Mrs. Barbauld's poetical effusions.

After a short tour through Holland, Flanders, and France, Dr. Parry settled down at Bath, in November, 1779, to engage in the laborious task of building up a practice. It is generally by slow degrees that a medical man wins the confidence of the public. He has no means of so displaying his skill and capacity that every eye shall see them; he has to wait for his opportunity, and that opportunity is often very long in coming. But he has to do something more; when it comes, he has to recognize it, and avail himself of it, for if it passes away, a second chance may not be afforded him. I suppose it is true that every man, once in his lifetime, gets this chance; but if so, I am sure that a great many men miss theirs. And doctors without patients are, I think, more common even than barristers without briefs. Dr. Denman, an experienced and successful practitioner, expounded his views on this subject to the young Bath physician in language which, if not very encouraging, was frank and sensible, and by young doctors may to this day be read with advantage:—"I am not surprised," he writes, "that you find your receipts come in slowly at present; but all young practitioners think, when they set up their standard, that the world should immediately flock to it, and they are generally disturbed when they find the contrary. But all business is progressive, and the steps now taken may be so calculated as to produce their effect ten years hence. There must be a vacancy before we can get into business, and when there is, the competition must be equal in many points, usage or standing, character or knowledge, industry or readiness to exert our knowledge for the good of our patients, moral qualities, and the like. On the whole, I do not know what any man can do to get patients, but to qualify himself for business, and then to introduce himself to the notice of those who are likely to employ him. But it is hard to say on what hinge this matter may turn, as I see men, in great business, of every disposition, or turn of conduct,

and with very different degrees of knowledge, and some, I think, with very little, but with great appearance of it. What is very hard, and yet I know two or three instances of it, is, that a man shall be esteemed as a friend, acknowledged to be a man of parts, but none of his friends think of employing him in his profession. This I can hardly explain, unless by the old observation, 'He is too good a poet to be a good physician.' . . . With all that can be done, the progress of business must be slow, and may depend upon circumstances which no man can command; but whatever happens, it is a point both of wisdom to the world, and justice to one's self, not to be put out of humour."

Dr. Parry was grateful for this sound advice and profited by it. Points there were, however—points connected with the practice of medicine—which, while they seriously interfered with his desire to improve the science, and to confer all the benefits of which he was capable, excited his surprise, and, at the same time, offended his integrity. "A great part," he says, "of the obstacles to the improvement of the science of medicine originates in the habit of self-indulgence, leading persons to the gratification of present appetite, or the removal of present suffering with little or no consideration of the future. Hence the whole wretched system of temporizing, which flatters the patient, and is a disgrace to the profession. A man shall be grossly ignorant of the whole science of medicine, yet if he have a certain degree of assurance, aided by an adequate number of fashionable phrases, some speciousness in decorating mystery, with a determined resolution of flattering his patients by an appearance of great zeal and attachment, and by confirming the good opinion which they entertain of their own discernment in the choice of the medicine and diet which they most like, that man shall grow popular and rich under the hourly dereliction of every principle of truth, honour, and conscience, and become accessory to the daily destruction of

his fellow-creatures. This is the reason why a large party of all ranks is always inclined to favour the most uneducated of the medical profession; and why the subordinate branches are often preferred, even at an equal expense, to the higher."

It is difficult to determine the qualifications that secure popularity in the medical profession. One would reason *a priori* that as a doctor is called in to cure, if possible, with all due expedition, the disease under which the patient labours, preference would be given to the man best acquainted with his duties, the man of the most marked ability and the highest accomplishments. But this is far from being always the case. As a matter of fact, the general public are so hopelessly ignorant of even the elements of science, that they have no standard by which they can measure the medical practitioner's acquirements; and if they make a fortunate choice, it is by the veriest accident. They are sometimes attracted by a plausible air and an agreeable address; sometimes, by exactly the opposite qualities—a boorish manner and crudity of speech being regarded apparently as the outward and visible signs of the inward and invisible gift of genius. The selection is frequently governed by accidental circumstances, or determined by the gossip of the neighbourhood. Not very often, I fear, does capacity or character get its full weight in the balance.

In Dr. Parry's case, however, merit and good fortune went hand-in-hand. Patients came to him, and recommended others; the circle increased yearly; it drew within it the rank and wealth and distinction of English society; until it was calculated that in thirty-six years of active practice nearly the whole catalogue of the British nobility and many of the most eminent persons in the kingdom had placed their names on his visiting-book. It is possible to show the progressive increase in his yearly income, and nothing can more vividly

mark the steady character of his advance in public esteem. I may add that it also affords as striking a testimony to the value of an unfailing resolution and an indomitable perseverance as can be found in any manual of "Self-Help." In his first year, 1780, his receipts were £39 19s.; in his second, 1781, £70 7s.; in his third, 1782, £112 7s.; in his fourth, 1783, £162 5s.; in his fifth, 1784, £239 5s.; in his sixth, 1785, £443 10s.; in his seventh, 1786, £552 9s.; in his eighth, 1787, £755 6s.; in his ninth, 1788, £1533 15s. From the tenth year the increase was more rapid, and the amount rose from £300 to upwards of £600 per month. It might have been still larger but from his habit of refusing fees from patients of straitened means. His advice was placed at the disposal of the poor on so liberal a scale that, in one year, he gave private attendance to 30,000 indigent persons in the city of Bath and its neighbourhood. This immense experience he was careful to utilize by recording with minute exactness everything that was of special interest. At the bedside of his patient, in his carriage, in his walks, or at home, he kept a register of all the facts which might be available in extending his knowledge and confirming his doctrines or principles. In the preface to his posthumous works occurs the following passage:—

"It cannot be denied that the profession of Medicine labours under peculiar disadvantages. The very multiplication of the opportunities of knowledge so harasses and fatigues by the practice of the art, as often to afford little leisure or inclination to cultivate and extend the science. If to this rule there occur some exceptions, they depend not on any superiority of mental talents, but on early habits of application, on the force of motives, on the felicity of local situation, and on the capacity of the body to endure privation and labour without suffering that languor which would impair the energy of the mind.

“The business of man is not merely to eat, to drink, to sleep, to enjoy sensual pleasures, and then to lay himself down and die. Exclusively of eternal concerns, every human being should have one great and laudable end in life, which should constitute his chief motive to action, and to which, therefore, all his other occupations should be subservient. Habits of this kind having been long formed, whatever may be the nature of the object in view, or however difficult its attainment, the pursuit is no longer painful. On the contrary, the mind associates it with all other trains of thought, reluctantly wanders from it, and returns to it with delight, as to its native home.

“Feelings like these, which have long made my professional pursuits my greatest pleasure, aided by the wish of emulating some great professional names, and by a strong desire that the world may be the better for me after I shall have left it for ever, have supported me under the privation of domestic and social gratifications, and under exertions incessantly pursued through sickness, sorrow, and pain.

“The great book of Nature, which is alike open to all, and is incapable of deceiving, I have hourly read, and I trust not wholly in vain. During the first twelve or fourteen years of my professional life, I recorded almost every case which occurred to me either in private practice or in the chief conduct of an extensive charity. When, afterwards, the multiplication of common examples seemed to me an unnecessary waste of inestimable time, which might be much more profitably employed, I contented myself with the more useful task of recording chiefly such cases, or, on a few occasions, such particular circumstances only of cases, as led to the establishment of principles. This I have generally done on the spot, or rarely deferred beyond the day of observation, always rejecting what, on repeated and varied inquiry, I have not been able fully to verify.

“Whatever inferences from phenomena have suggested themselves to me, I have immediately noted down, and afterwards carefully examined on all sides, and in every light. By this method, which I strenuously recommend to all persons engaged in scientific pursuits, whether physical or moral, I have often been able to ascertain the order of phenomena, and to catch new links which have gone some way towards completing the whole chain of causes and effects.

“Under these circumstances, I have been able to record a considerable number of dissections, together with nearly seven hundred illustrative cases, which chiefly serve as the basis of my intended work.

“Far, however, am I from looking back on my professional life without considerable self-reproach and regret. How often have opportunities been neglected of ascertaining points essential to the discovery of inestimable truths, for which my records are now searched in vain! It may, perhaps, be some excuse, that the error is common to me with many others of mankind, who, at an early period of experimental investigation, are ignorant of what is wanting to the advancement of the science which they profess.”

The work to which Dr. Parry here alludes was a System of Pathology and Therapeutics, which for years he had had in contemplation. With many of the principles which regulated the usual practice, and with their unsuccessful application, he felt greatly dissatisfied, and he resolved to take his stand upon the results of his own judgment and observation. As soon as he began to investigate the nature and affections of the nervous system, he perceived an obscurity of statement and a boldness of assumption, which were always doubtful, and generally injurious in their consequences. He was then led to examine the effects of the circulatory system, in its relation to many obscure morbid affections of the brain and nerves. In this system he detected a frequent and palpable

origin of that irritation which becomes an immediate cause of many nervous affections; and from the management of the same system derived a new and more available means of relief than could be obtained under the common practice and teaching. After outlining his views, especially on the subject of what has been called "determination of blood" to the head or elsewhere, in some magazine articles, he published them in a more detailed form in the first volume of his "*Elements of Pathology and Therapeutics; or, The Outlines of a Work intended to ascertain the Nature, Causes, and most Efficacious Modes of Prevention and Cure of the greater number of the Diseases incidental to the Human Frame, illustrated by numerous Cases and Dissections.*" This first volume embodied Dr. Parry's opinions on General Pathology; in a second he intended to treat of "General Therapeutics." But Fate with the abhorred shears interposed. In 1816 (October the 25th) he was seized with a paralytic attack, which deprived him of the use of his right side, and rendered his speech almost unintelligible. It did not affect, however, his mental activity, and though he could neither write nor dictate, and was forced to abandon his literary labours, he occupied himself in reading for several hours daily, and marked the most valuable and interesting passages, which he caused to be transcribed by his daughters. He found much amusement also in the supervision of his farm and garden. Six years he spent in these tranquil occupations, struggling heavily against pain and disease, and passing away at last with great serenity on the 9th of March, 1822.

Among Dr. Parry's other works are numerous contributions to *The Farmer's Journal*, two or three papers on agricultural subjects, an Essay on the Merino Sheep, an "Experimental Inquiry into the Nature, Causes, and Varieties of the Arterial Pulse," and "Cases of Tetanus and Rabies

Contagiosa" (or Hydrophobia). He was also the author of an "Inquiry into the Symptoms and Causes of the Syncope Anginosa, commonly called *Angina Pectoris*"—the dread disease which killed Dr. Arnold, of Rugby, in the prime of his manhood. Respecting it, he lays down the following conclusions :—

1. That it is a case of syncope, preceded by notable anxiety or pain in the region of the heart.

2. That the tendency to this disorder arises from mal-organization in the heart itself; which mal-organization seems to be chiefly induration of the coronary arteries.

3. That this mal-organization acts by diminishing the energy of the heart.

4. That the chief symptoms of the disease are the effects of blood retarded and accumulated in the cavities of the heart and neighbouring large vessels.

5. That the causes exciting the paroxysms are those which produce this accumulation—(1) by mechanical pressure; (2) by stimulating, in an excessive degree, the circulating system.

6. That, after a certain approach towards quiescence, the heart may recover its irritability, so as again to carry on the circulation in a more or less perfect degree, from the operation of the usual stimuli; but,

7. That death may at length ensue from a remediless degree of irritability in the heart.

Now that M. Pasteur's treatment of hydrophobia by inoculation is being watched with so much interested curiosity, I think the reader will not be displeased to have before him Dr. Parry's view of that formidable disease. We have seen that he preferred to call it *Rabies contagiosa*; the term "hydrophobia" applying, he would say, to a single symptom only, whereas, even without its existence, the sufferer would certainly fall a victim. The part primarily affected is not the

pharynx, œsophagus, or stomach, but the upper portion of the trachea, together with other parts of the respiratory apparatus. The characteristic features he describes as a local spasm and convulsive action of the respiratory organs—an inordinate action of the voluntary muscles, whether from a perverted function of the brain, or in a want of power in the muscles themselves to obey the will precisely. There could not be a greater mistake, he thought, than to suppose, either that the fever of hydrophobia is of the inflammatory kind, or that its peculiar symptom originates in local inflammation of the fauces, the cordia, or any other organ. As he could discover no new guide for its treatment, and believed that all means had failed to cure in the true canine hydrophobia, which was the effect of a virus introduced into the system, he concluded that the victim's sole security lay in excision before constitutional symptoms had been developed.

In person, Dr. Parry was exceedingly handsome. With much dignity of manner he combined a certain degree of playfulness, which made the light and life of his domestic circle. He was a man of very extensive reading, and a wide knowledge of men and manners, so that his conversation was always fresh, suggestive, and agreeable. His tastes were largely artistic—music, poetry, and painting he loved almost equally; but he had a passion for horticulture and farming, and threw much enthusiasm into his devotion to his professional duties. It was no empty monumental praise which said of him—to quote from his epitaph in the Abbey Church at Bath—that “ingenio, moribus, multiplici literarum cognitione, exornavit scientiâ, naturæ indagatione, perspicaci, feliciter promovit.”

MATTHEW BAILLIE, 1761–1823.

Matthew Baillie was born at the manse of Shotts, in Lanarkshire, in 1761. His father was the parochial minister,

but afterwards became Professor of Divinity in the University of Glasgow. His mother was the sister of two illustrious practitioners, whose names we have already put before our readers with the honour due to them, William and John Hunter. This auspicious parentage was assisted by the talents of the offspring; for not only Matthew, but his sister Joanna, rose into celebrity, the former as a physician, the latter as a poet. The authoress of the "Plays of the Passions" received the suffrages of Sir Walter Scott, and a good deal of applause from a lenient public.

Having been initiated in the elements of education at the Grammar-School of Hamilton, Matthew Baillie entered the University of Glasgow, where he spent three years in the study of languages, mathematics, and general philosophy. When the time came for him to decide upon a profession, he primarily selected the Church; but the fame of his maternal uncle, William Hunter, eventually decided him in favour of Medicine. Meantime, having won a Snell exhibition at Balliol College, Oxford, he repaired thither to complete his general education; spending the long vacations under his uncle's roof in London. No condition could have been more favourable to the making of a thorough student; and his progress was so rapid in anatomical science that, in two years, his uncle appointed him a demonstrator in his anatomical school. He owed something to his natural capacity and the national characteristic of dogged perseverance—but he owed a great deal also to the assiduous teaching of his uncle, who insisted that everything the young man learned should be thoroughly acquired and completely understood. The method he adopted is thus described:—"Matthew, do you know anything of to-day's lecture?" "Yes, sir, I hope I do." "Well, then, demonstrate to me." "I will go and fetch the preparation, sir." "Oh, no, Matthew, if you know the subject really, you will know it whether the preparation be absent or

present." After this brief dialogue, Dr. Hunter [it is said] would stand with his back to the fire, while his young nephew demonstrated the subject of the lecture which had last been delivered; whereupon he was either approved and encouraged, or immediately convicted of having carried away with him a very imperfect recollection of the information conveyed.

Matthew Baillie was twenty-two years old when his uncle died [in 1783], and bequeathed to him his museum [now the property of the University of Glasgow], his theatre and house in Windmill Street, and a small family estate in Scotland—which Baillie generously resigned in favour of his uncle, John Hunter, from a consideration that he was the natural heir. William Hunter left him also an income of about £100 a-year.

"The example and precepts of so distinguished a relative as William Hunter, afforded advantages such as few students have possessed. Baillie observes of him that no one ever possessed more enthusiasm for the art, more persevering industry, more acuteness of investigation, more perspicuity of expression, nor, indeed, a greater share of natural eloquence. The clearness and simplicity which rendered the lessons of William Hunter so instructive and so captivating, were visible, in nearly an equal degree, in the lectures which Baillie continued, during many years, to deliver in the same school. He seized every occasion of examining diseased appearances after death, and preserved minute notes of his observations; his zeal in one instance endangered his life, from a slight wound received on his hand, by a knife, while engaged in the dissection of a putrid body. He gradually accumulated a well-selected collection of specimens of diseased organs; it illustrates almost every diseased alteration in the human body, and is now preserved in the College of Physicians, to whom he presented it, with a sum of six hundred pounds towards its maintenance, and with his medical library."

In 1787, at the early age of twenty-seven—early, at least for such a post—he was elected one of the physicians to St. George's Hospital; and in 1789, took the degree of M.D. at Oxford, and was made a fellow of the Royal College of Physicians of London.

The work by which Baillie is now best known in his profession is "The Morbid Anatomy of Some of the Most Important Parts of the Human Body." It met with a cordial welcome on its publication in 1795, and was immediately translated into French and German. Meckel, one of the greatest of European anatomists, was largely indebted to it in his own treatise on Morbid Anatomy. Sir Henry Hallford says of it:—"Dr. Baillie acquired business early by the credit of his book on Morbid Anatomy. From the date of its first publication, its materials must have been furnished, principally, by a careful inspection of the diseased preparations collected in the museum of his uncle, Dr. Hunter. But it opened a new and most productive field of curious knowledge and interesting research in physic; and when he came to add, in the subsequent editions which were required, an account of the symptoms which accompanied the progressive alteration made in the natural structure of parts, by some diseases, during the life of the patient, from his own observation and experience, he rendered his work highly valuable and universally popular. Impressed as he was with the great importance and value of such morbid preparations in assisting the physician to discriminate obscure internal diseases, his generosity prompted him, after the example of the immortal Harvey, to give, in his lifetime, his own collection to the College of Physicians. He has thus laid the foundation of a treasury of knowledge, for which posterity will owe him a debt of gratitude to the latest period."

In 1789, Baillie married Sophia, the second daughter of Dr. Denman, an eminent and popular physician, whose exten-

sive connection as an accoucheur afforded him numerous opportunities of recommending his son-in-law. A few years afterwards Baillie succeeded to the engagements of Dr. Pitcairn, when that practitioner partially retired from the active exercise of his profession (in 1798). In the following year Baillie was compelled by the immense pressure of his private work to give up his appointment as physician to St. George's Hospital. Unfortunately, in his haste to grow rich, and his devotion to a single aim and pursuit, he seriously injured his constitution, and weakened the elasticity of his mental energies. He was unable to enjoy the rest which he actually needed—the relaxation which would have given a fresh stimulus to the activity of his mind. His early love for rural scenes and occupations disappeared in the course of his prolonged devotion to his professional duties; so that when he had become the possessor of a considerable estate, and the condition of his health rendered rural retirement necessary, he found no pleasure in it; while the want of intellectual culture prevented him from seeking a solace in literature or art.

Baillie held the posts of physician-in-ordinary to the Princess Charlotte and George IV. In 1810 he attended on the Princess Amelia, whose death so profoundly affected the mind and reason of her royal father. He was consulted during the last mental illness of the latter, and for ten years paid frequent visits to Windsor. Drs. Heberden and Willis were also in attendance, suggesting the following wicked epigram:

“The King employed three doctors daily,
Willis, Heberden, and Baillie;
All exceeding clever men,
Baillie, Willis, Heberden;
But doubtful which most sure to kill is,
Baillie, Heberden, or Willis.”

Many learned bodies invited him to accept of their membership; and he received the honour of upwards of thirty

dedications. His prosperity never buoyed him up into any extravagant self-assertion. He would sometimes say: "I know better, perhaps, than another man, from my knowledge of anatomy, how to discover a disease, but when I have done so, I do not know better how to cure it." His want of literary taste and scientific knowledge made him occasionally unjust in his judgment of professional brethren whose minds were of wider scope than his own. No one can doubt that Dr. Gregory, of Edinburgh, was as distinguished a physician as he was a fine classical scholar. But when he and Baillie met, during the former's visit to London, Baillie, unable to appreciate the variety and depth of his information, growled out epigrammatically:—"Gregory seems to me to know everything but physic." Gregory's retort was as keen, and infinitely more true:—"Baillie," he said, "knows nothing *but* physic."

For many years he was accustomed to devote sixteen hours daily to business—a burden of labour which necessarily told upon his health, and was the cause of a painful irritability of disposition. Conscious of this tendency, he made honest efforts to control it. Frequently, when sitting down to table after a day of fatigue, he would hold up his hands to his family, who were preparing to welcome him, exclaiming: "Don't speak to me;" and then, presently, after taking a glass of wine, and clearing the cloud from his brow, he would look round with a loving smile, and say: "You may speak to me now." He was usually very courteous and indulgent to his patients, but his irritability sometimes got the better of him. After listening, with much vexation of spirit, to the protracted complaints of a lady, whose illness was so little felt that she had arranged to go to the opera in the evening, he had happily escaped from the room, and was nimbly descending the stairs, when he was urgently requested to step back again. "May I, on my return from the opera, eat some

oysters?" "Yes, ma'am," was the impatient reply, "shells and all."

Baillie died in 1829, at the age of sixty-eight, after a remarkably brilliant professional career. He left a large fortune, though we must own that, if he loved to acquire money, he could be liberal in disposing of it, and would refuse his fees from patients whose income he knew to be limited.

His character has been sketched in terms of high eulogium by his distinguished contemporary, Sir Henry Hallford:—"The same principles which guided Dr. Baillie in his private and domestic life governed his public and professional behaviour. He was kind, generous and sincere. His purse and his personal services were always at the command of those who could prefer a proper claim to them; and every branch of the profession met with equal attention. Nay, such was his condescension, that he often incurred great inconvenience to himself by his punctual observance of appointments with the humblest practitioners.

"In consultation he was candid and liberal in the highest degree; and so industriously gave credit to the previous treatment of the patient (if he could approve of it), that the physician who called him in never failed to find himself in the same possession of the good opinion of the family as he was before the circumstances of the case had made a consultation necessary.

"His manner of explaining the disease, and the remedies recommended, was peculiar to himself, and singularly happy. It was a short compressed lecture, in which the objects in view and the means by which they were to be obtained, were developed with great clearness of conception, and in such simple unadorned language as was intelligible to his patient and satisfactory to his colleague.

"Before his time, it was not usual for a physician to do much more than prescribe remedies for the malady, and to encourage

the patient by such arguments of consolation as might present themselves to humane and cultivated minds. But as the assumed gravity and outward signs of the profession were now considered obsolete customs, and were, by general consent, laid aside by the physicians, and as a more curious anxiety began to be observed on the part of the patient to learn everything connected with his complaint, arising naturally from the improved state of general knowledge, a different conduct became necessary in the sick-room.

"The innovation required by the spirit of modern times never could have been adopted by any one more fitted by nature and inclination to carry it into effect than by Dr. Baillie.

"The attention which he had paid to morbid anatomy enabled him to make a nice discrimination in symptoms, and to distinguish between disorders which resemble each other. It gave him a confidence also in propounding his opinions, which our conjectural art does not readily admit; and the reputation which he enjoyed, universally, for openness and sincerity, made his dicta be received with a ready and unresisting faith.

"He appeared to lay a great stress upon the information which he might derive from the external examination of his patient, and to be much influenced in the formation of his opinion of the nature of the complaint by this practice. . . ."

Sir Henry Halford concludes with a testimony to Dr. Baillie's simple piety. The teaching and example of his parents were never forgotten by him even in the strain and stress of a popular physician's daily work, and were confirmed by his own examination of the great verities of the Christian faith. "Justice cannot be done," says Sir Henry, "to Dr. Baillie's medical character, unless that important feature in it, which appeared in every part of his conduct and demeanour

—his religious principle—be distinctly stated and recognized. His ample converse with one of the most wonderful works of the Creator—the formation of man—inspired in him an admiration of the Supreme Being, which nothing could exceed. He had, indeed, ‘looked through Nature up to Nature’s God’; and the promises of the Gospel, on the conditions explained by our Redeemer, were his humble but confident hope in life, and his consolation in death.

“If one precept appeared to be more practically approved by him than another, it was that which directs us to do unto others as we should have them do unto us; and this was felt and acknowledged daily by all professional brethren in their intercourse with him.

“On the whole, we may say of him what Tacitus does of Agricola: *Bonum virum facile crederes; magnum libenter.*”

ROBERT GOOCH, 1784–1830.

Robert Gooch, who, in a too brief career, contrived to make his mark on the literature of his profession, was born at Yarmouth, in Norfolk, in June, 1784. The son of a master mariner in the merchant service, who was unable to provide him with any extended educational advantages, he was placed at a common day-school in his native town, where he made some acquaintance with arithmetic and writing. Though of a delicate constitution, he was active and resolute; his amiable temperament brought him many friends, whom he knew how to keep; he showed no precocious talent, but was fairly intelligent as well as industrious. At the age of fifteen, he was apprenticed to a local surgeon and apothecary; and, accepting the great principle of self-help, acquired unaided a tolerable knowledge of Latin. Almost the only incident occurring in this period of his life, of which any record has been preserved, was curious enough to produce a strong impression on his

memory, and is thus described by himself:—"From the age of fifteen to twenty-one," he says, "I was an apprentice to a country surgeon, and when I had nothing else to do, no pills to roll, nor mixtures to compose, I used, by the advice of my master, to go up into my bedroom, and there, with Cheselden before me, learn the anatomy of the bones by the aid of some loose ones, together with a whole articulated skeleton, which hung up in a box at the foot of my bed. It was some time before I overcame the awe with which I used to approach this formidable personage. At first, even by daylight, I liked to have some one in the room during my interviews with him; and at night, when I laid down in my bed, and beheld the painted door which inclosed him, I was often obliged to make an effort to think of something else. One summer night, at my usual hour of retiring to rest, I went up to my bedroom, it was in the attic story, and overlooked the sea, not a quarter of a mile off. It was a bright, moonlight night; the air was sultry; and after undressing, I stood for some time at my window, looking out on the moonlight sea, and watching a white sail which now and then passed. I shall never have such another bedroom, so high up, so airy, and commanding such a prospect; or, probably, even if I had, it would never again look so beautiful, for then was the spring-time of my life, when the gloss of novelty was fresh on all the objects which surrounded me, and I looked with unmingled hope upon the distant world. Now—but I am rambling from my story. I went to bed, the moonlight which fell bright into my room showed me distinctly the panelled door behind which hung my silent acquaintance; I could not help thinking of him—I tried to think of something else, but in vain. I shut my eyes, and began to forget myself, when, whether I was awake or asleep, or between the both, I cannot tell—but suddenly I felt two bony hands grasp my ankles, and pull me down the bed; if

it had been real it could not have been more distinct. For some time, how long I cannot tell, I almost fainted with terror; but when I came to myself, I began to observe how I was placed: if what I had felt had been a reality, I must have been pulled half-way out of the bed, but I found myself lying with my head on my pillow, and my body in the same place and attitude as when I shut my eyes to go to sleep. At this moment this is the only proof which I have that it was not a reality, but a dream."

Gooch owed his intellectual development to the influence of a gentleman of the name of Harley, whose acquaintance he made during these impressionable years of his young manhood. Mr. Harley was about thirty years old, and nearly blind; he was passionately fond of books, but was necessarily dependent upon others for his enjoyment of them. His studies were of a varied description—history, chemistry, medicine, and even metaphysics. Gooch spent most of his evenings in reading aloud to Mr. Harley. Amongst the books they took up were Bishop Berkeley's Works, Hartley and Hume's Essays. These Mr. Harley loved to discuss with his young friend, and the discussions served to bring out the hitherto-dormant capacities of his mind, and to cultivate his reasoning powers.

During Gooch's apprenticeship-period, the great war with France and her allies was engaging the national sympathies; and Sir Hyde Parker and Lord Nelson made their famous attack upon Copenhagen. On Nelson's return, victorious, many of the wounded on board his ships were removed to the Naval Hospital at Yarmouth. Being acquainted with some of the young surgeons, Gooch paid frequent visits to the hospital. He was there (he wrote long afterwards) on the morning when Nelson arrived in the Roads, and landed at the jetty. "The populace soon surrounded him, and the military were drawn up in the market-place ready to receive

him, but making his way through the dust, and the crowd, and the clamour, he went straight to the hospital. I went round the wards with him, and was much interested in observing his demeanour to the sailors: he stopped at every bed, and to every man he had something kind and cheering to say: at length he stopped opposite a bed on which a sailor was lying, who had lost his right arm close to the shoulder joint, and the following short dialogue passed between them. Nelson: 'Well, Jack, what's the matter with you?' Sailor: 'Lost my right arm, your honour.' Nelson paused, looked down at his own empty sleeve, then at the sailor, and said, playfully, 'Well, Jack, then you and I are spoiled for fishermen; cheer up, my brave fellow!' And he passed briskly on to the next bed; but these few words had a magical effect upon the poor fellow, for I saw his eyes sparkle with delight as Nelson turned away and pursued his course through the wards."

Among the acquaintances whom Gooch made during his apprenticeship was a Mr. Tupper (afterwards a successful London practitioner), who lent him a manuscript copy of Astley Cooper's lectures; also, William Taylor, the well-known beneficent and enlightened patron of men of letters. He probably assisted him when, in prosecution of his medical education, he made his way to Edinburgh. His ardour in the pursuit of his academical studies was immense. He was present at every lecture; attended the Royal Infirmary; and became an active member of the Medical and Speculative Societies, where he soon acquired great readiness in debate, and considerable force as well as elegance of expression. In June, 1807, he took his degree of Doctor of Medicine. The winter of that year he passed in London as a pupil of Astley Cooper, in order to extend his acquaintance with anatomy and surgery. In the following year he formed a partnership with Mr. James, of Croydon, a general practitioner of con-

siderable local eminence, and entered with activity upon his professional duties. In 1808 he became a frequent and valued contributor to the *Medical Review*, and consummated a long attachment to an accomplished young lady of the name of Bolingbroke, by marrying her. The union was singularly happy; but consumptive symptoms soon made their appearance in Mrs. Gooch, and in less than three years he was a widower. Naturally of a melancholy temperament, this grievous affliction threw him into a depression of spirits from which he never recovered, though in a spirit of manly and sincere piety he earnestly struggled against it.

In the year of his wife's death (1811) he gave up his partnership at Croydon, and removed to London to practise as a physician-accoucheur. He settled in Aldermanbury, and being warmly recommended by Sir William Knighton and Dr. Babington, soon rose into favourable notice. In 1812 he was elected physician to the Westminster Lying-in Hospital, and in this office availed himself of the opportunities it afforded of acquiring a practical knowledge of the difficulties of midwifery. At this time Gooch wrote cheerfully of his prospects to a friend:—"You will be glad to hear," he said, "that practice is coming in upon me in a way and with a rapidity which surprises me; if its after progress is at all proportionate to its commencement (of which I feel no doubt), it will soon carry me out of the reach of pecuniary cares. I have been attending the daughter of one of the most zealous Methodists I ever met with; he never gives me a fee but I find written in red ink on the bank-note some religious sentence. I have now two of these curiosities lying by me; on one is written, 'Who shall exist in everlasting burnings?' on the other, 'The wages of sin is death.' There were several others which I cannot remember. I have sent them out into the world to do all possible good, and these will soon follow them."

In the course of this year Goode was elected lecturer on Midwifery at St. Bartholomew's Hospital, and it may safely be said that, when he had conquered an initial nervousness, he became one of the ablest and most scientific teachers of a difficult subject. In January, 1814, he was married to his second wife, Miss Travers, the sister of an old friend. Happy in his domestic relations, his practice continually increasing, his reputation firmly established, it seemed as if Fortune had loaded him with her choicest gifts as a reproof for his disposition to melancholy; but at the climax of his success, a morbid affection of the stomach and indications of asthmatic trouble forcibly reminded him of the mutability of things human, and excited his imagination with gloomy apprehensions. Early in 1816, his large practice at the West End induced him to fix his residence in Berners Street; and towards the close of the year he was summoned to Ramsgate on a professional visit to the Marquis Wellesley. There he was seized with a severe gastric illness; the stomach rejecting every kind of food, and incessant vomiting rapidly reducing his strength. The utmost care and attention were shown to him; and after awhile he was able to return to London, and resume his professional duties. Gradually he fell back into his old groove of action, and as evidences of success multiplied around him, his energies revived, and his mind became possessed of a quiet cheerfulness and contentment. "My (three) children," he wrote in 1818, "are healthy, and more delightful to me than I had anticipated before I was a father. In my profession I am striding on with a rapidity which I had no right to expect at my age and standing; the progress I have made, and from the state of competition the prospects I have before me, are such, that by fifty years of age, and very likely before, I must be able to retire with a competence. This is the happiest time of my life; my home is delightful to me; my station satisfactory, whether I

regard what is doing for me or what I am doing for others—my pecuniary cares gone—my prospects bright, and, I may add, as certain as anything can be, that is, if I live and preserve my health; but there's the rub—that troubles me more than ever, and though I can nowhere detect any mortal disease, yet I am in a state which keeps constantly before my mind the probability that my life will be short, too short for me to do what I could do for my family, and what little I would try to do in my way for mankind.”

A crushing blow befel him in 1820 in the death of his eldest son, a promising child of five years old. He was buried in the God's Acre that surrounds the old parish-church of Croydon. The mental pressure which resulted from this affliction explains a striking dream which Dr. Gooch afterwards related to several of his friends. Though a consistent Christian believer, he was occasionally troubled, like most thoughtful men, with the spectre of Doubt. One night, soon after his boy's funeral, when he had been greatly harassed by suggestions of unbelief, he fell on his knees, and prayed earnestly for their removal. While eagerly yearning for the apparition of his son, and thinking that, if such a vision might be vouchsafed to him, he should doubt no more, he fell asleep. Then, in the dream that came over him, he thought his child appeared, and said that, although his prayers had been heard, and a spirit had been allowed to visit him, yet would he not be satisfied, but would regard it merely as a dream; adding, he who will not believe Moses and the prophets, will not believe though one comes from the dead.

Considerations of health compelled him to take every summer a few weeks' holiday, and leave London in order to enjoy a complete relief from work, and that mental rest which change of scene involves. On one of these occasions, in 1822, he visited Paris, and a letter respecting

his tour, which he wrote to an old friend, may be quoted for two reasons—first, because it is characteristic of the man; and, second, because it is a fair sample of his epistolary style.

“My journey to France, like all earthly things, has afforded me a mixture of good and evil; I have returned in better health, pleased with some things, disappointed with many, and resolved (as long as I continue in the same mind) never to go abroad again during my future holidays from business. When I leave London I want repose; in my last excursion I had anything but that, for the fatigues of business are nothing to the fatigues of sight-seeing in Paris. I used to come home at night half dead; but the next morning I was alive again, and ready to run the same foolish round. I say foolish, because three-fourths of the sights you are dragged to see, are, in my mind, not worth seeing. The pleasantest day I spent in France was in travelling from Paris to Rouen, sitting on the outside of the carriage, and looking about on a beautiful and ever-changing country, observing the grotesque appearance of the peasantry, and passing through towns interesting from historical association. I shall take the hint, and if ever I leave town again for health and relaxation, it shall be for an unhurried tour through Wales or Cumberland, or some of the beautiful counties of England. Horace Walpole said, that after Calais there was nothing in France striking; and I can understand what he means, for our first day in Calais was the most striking day I experienced; even the crossing was exciting and agreeable: I had never before been on board a steam packet, and without the aid of wind or tide, or any visible means, to see it turn round and walk over the waters, gave me a lively sense of the power of man. It was a glorious morning; the sea was green, and scarcely more ruffled than a lake; the deck was crowded with well-dressed passengers, and the scene was indescribably lovely. We entered Calais

Harbour, playing the popular tune of Henry IV.—between the piers on each side, a mile long, thronged with people. On landing, the first aspect of the town—its ramparts—as you pass along the streets, the dresses of the people, their long-eared caps, gold ear-rings, blue stockings, and wooden shoes, ugly faces and strange tongue, all so entirely different from what you have left four hours ago—it was a striking moment; but alas! it was only a moment. The eye soon gets accustomed to the costume of a foreign country; I had experienced this pleasure a long time before in my first journey to Scotland, when it was far more lively and lasting than now: now the only time I felt it was, as I have described, on my first entrance into Calais, and it was scarcely ever repeated during the rest of my tour. I am old man—with me the bloom is off the plum, there is nothing in life which can afford me lively pleasure, except for a moment, but the pleasures I have around my fire-side; and I see clearly that, for the rest of my life, I must seek contentment from the attainment of a competence, the education of my children, and preparing for the ills and end of life.”

In the following autumn Gooch sought health and repose amid the picturesque scenery of North Wales. On his way back to London he spent a day at Warwick, with Dr. Parr, whom he had previously met in London. A racy account of both interviews was contributed to *Blackwood* by Dr. Gooch, under the title of “Two Days with Dr. Parr.” He records that, speaking of the relative advantages and disadvantages of the professions, Parr affirmed that the most desirable was that of Physic, which was equally favourable to a man’s moral sentiments and intellectual faculties. He was reminded of the first occasion on which he had met Dr. Johnson. “I remember it well,” said Parr. “I gave him no quarter: the subject of our dispute was the liberty of

the press. Dr. Johnson was very great: whilst he was arguing, I observed that he stamped; upon this I stamped. Dr. Johnson said, 'Why do you stamp, Dr. Parr?' I replied, 'Sir, because you stamped, and I was resolved not to give you the advantage even of a stamp in the argument.' "

Feeble health compelled Dr. Gooch, in the early autumn of 1825, to relinquish the practice of midwifery, and confine himself to the prescribing part of his profession. At the beginning of the following year he was further weakened by an attack of hæmatopsysis; but notwithstanding these frequent illnesses his reputation—and his practice—showed no sign of declension. In April, 1826, his appointment as Librarian to the King ensured him a moderate provision for life, in case debility should compel him wholly to give up his professional duties. As it was, he felt obliged to restrict himself to a very limited number of hours of active employment. His mind, however, maintained all its activity, and he was busily occupied either in preparing for publication his work on "the Diseases of Women," or in contributing to periodical publications. He threw himself into everything he took with an earnestness and a tenacity which exceeded his physical strength; so that the closing years of his life were spent in an incessant contention between mental vigour and bodily weakness. On his best days his health was that of a confirmed valetudinarian, though he could generally see a certain number of patients, and devote a few hours to literary pursuits.

In the summer of 1829 appeared that valuable and important work "On the Diseases of Women," to which he owes his reputation with posterity. He lived long enough to see its favourable reception at the hands of his professional brethren. But with the opening weeks of 1830 his life began to ebb very rapidly. His bodily powers had completely

failed ; he became a living skeleton ; so helpless that he had to be fed like an infant, though his intellect retained all its old perspicacity and force. This life-in-death, or death-in-life, was happily terminated on the 16th of February, 1830, when Dr. Gooch passed away tranquilly, at the comparatively early age of forty-five.

CHAPTER II.

HERMANN BOERHAAVE.

HERMANN BOERHAAVE was born at the village of Voorhout, near Leyden, on the 31st of December, 1668. His father was a minister of the Lutheran Church, who intended his son to succeed him, and bestowed upon him, therefore, a very careful education. Latin, Greek, and Universal History were accumulated upon the childish brain, which, however, proved robust enough and elastic enough, happily, to bear the pressure. At the age of eleven the boy could read Greek and compose in Latin. He was only fourteen when, at the Leyden public school, he held his own against all competitors. In 1684 he had the misfortune to lose his father, who left a large family very poorly provided for; but young Boerhaave contrived to pursue the studies he had learned to love, and by giving lessons in Mathematics supported himself at the University, which was then exceptionally fortunate in the learning and ability of its professors. Under Suenguerd he studied Logic, Natural Philosophy, Metaphysics, and Ethics; attaining to so marked a proficiency that he was able to maintain public disputations in them. Rhetoric, Chronology, and Geography he studied under Ryckius; Hebrew and Chaldee, under Trigland and Schaaf; Algebra, under Vodler. In 1689, the year of his majority, he delivered an Academic oration, under the presidency of the celebrated Gronovius, on the Highest Good (*De Summo Bono*), with the view of demonstrating that the doctrines of Epicurus were rightly understood by Cicero. He

was rewarded for his effort with the University's gold medal. In 1690 he obtained the degree of Doctor of Philosophy; on which occasion he composed a thesis, *De Distinctione Mentis a Corpore*, in which he vigorously criticized the teaching of Epicurus, Hobbes, and Spinoza. He then entered upon the arid field of Dogmatic Theology, in which, after the fashion of the time, he conducted a public disputation; and also attended the classes of Hebrew and Church History under Trigland and Spanheim. But by the advice and with the assistance of John Vaudenberg, burgomaster of Leyden, he joined to these pursuits the more practical one of Medicine, and thus discovered the true bias of his active intellect. With all the zest that comes from novelty he threw himself into this new study; carefully examining the anatomical works of Vesalius, Fallopius, and Bartholin; attending the public dissections and demonstrations by Nack, and missing no occasion of investigating the structure of the human body. The works of Hippocrates and Sydenham were his constant companions. He made himself acquainted with the principles of Botany and Chemistry; and having thus laid a solid basis of medical knowledge, he took the degree of Doctor of Medicine in July, 1693, in the University of Harderwyck, in Guelderland—his diploma thesis being on the advantages to be derived from an examination of the excretions in disease (*De Utilitate Suspiciendorum in ægris Excrementorum ut Signorum*).

Hitherto, however, Boerhaave had not absolutely decided which profession he should adopt, Medicine or the Church, or whether he should combine the two. We are told that an accident finally determined his choice, though we think that he was guided, even if unconsciously, by his evident predilection for the physical sciences. During one of his expeditions, he chanced to become involved in a discussion upon the works of Spinoza, which a fellow-traveller denounced on the

ground of their hostility to the Christian religion. Boerhaave interrupted his fiery harangue by the cool inquiry whether he had ever read the books of the author he was censuring so lavishly? It appeared that he had not, and the discussion ceased; but the baffled disputant made a note of his questioner's name, and on his return to Leyden decried Boerhaave as a Spinozist. "Such calumnies are not easily suppressed," says Dr. Johnson, "when they are once become general;" and Boerhaave, believing they would prejudicially affect him as a clergyman, resolved to devote himself entirely to the medical profession.

At first his practice was very limited. The physician's is the one vocation in which sudden success is almost impossible, and a man must build up his reputation by slow and laborious and often painful steps. Boerhaave, for eight years, studied and waited. His prospects were then improved by his appointment, on the death of Drelincourt, in 1701, as lecturer on the Institutes of Medicine in Leyden. He began his career with a discourse, *Oratio de Commendando Studio Hippocratico*, in which he strongly recommended students to take "the Father of Medicine" as their example and guide. The manner in which he illustrated his lectures by the application of his wide and profound chemical knowledge originated a general request from his pupils that he would teach Chemistry as well as Physic. His growing reputation brought him, in 1703, an invitation to fill the vacant chair of Medicine at Groningen, but he declined it; so much to the satisfaction of the Leyden authorities, that they considerably increased his salary, and promised him the reversion of the chief professorship in Medicine. It would seem to have been about this time that he gave in his adhesion to the principles of the mechanical or iatra-mathematical school in his "*Oratio de Usu Ratiocinii in Medicinâ*." It was Borelli, of Naples (born in 1608), who, in his treatise *De Motu*

Animalium, first applied mathematical reasoning to muscular movements. He and his school, of whom Pitcairn and Boerhaave have been the two most distinguished members, aimed at explaining everything by statical and hydraulic laws ; and John Bernouilli even went so far as to employ the differential calculus in explaining the bodily functions. But the iatro-mathematical physicians, like the chemiatic, represented in Holland by Sylvius, and in England by Willis, of Oxford, forgot those characteristics of animal organization and animal life, which often render inapplicable the laws of inert matter.

“The errors,” says Pettigrew, “into which the mathematicians ran in their estimate of the powers of the various organs of the human body are calculated to excite astonishment not unmixed with contempt.” Contempt, however, is hardly the feeling with which we should consider the conclusions, however inaccurate, of men of such proven ability as the leaders of the iatro-mathematical school. The heart was the chief object of their calculations. Borelli reckoned the resistance it has to overcome in propelling the blood through the arteries and veins as equal to 180,000 lbs. weight ; Dr. Hales did not think it exceeded 51 lbs. ; and Keil reduced it to a single pound. Dr. Pitcairn supposed the force of muscles to be in a compound ratio of their length, breadth, and depth ; that is, they were “homogeneous solids” in the ratio of their weights. So that, given the force of any one muscle, it was easy, by the rule of proportion (from their weights), to compute that of another ; and applying his rule to the stomach, he decided that it was equal at least to 117,088 lbs. weight. But the ratio stated by Pitcairn is purely hypothetical ; he supports it by no arguments, and it would be much nearer the truth to say that the weight of the stomach is five ounces. And so with respect to the pressure of air overcome by respiration : one makes it equal to 14,000 lbs.,

another reduces it to 100 lbs., and others to a still smaller amount. In short, no two mathematicians agreed in their estimate; and their differences were so considerable as to demonstrate the failure of mechanical principles to account for vital phenomena. It is a grave physiological error, we may add, to rely upon any one power to explain or account for the very various and complex actions of the animal economy.

“I am disposed,” says Dr. Pettigrew, “to view all the operations carried on in the human system as wholly dependent neither on mechanical, chemical, or vital causes, but by a combined action of the three; and upon these considerations I think that we shall be better enabled to explain the variety of phenomena which present themselves upon an inquiry into their actions. We know that the mere size of the vessels, and the velocity with which the blood can be transmitted, are insufficient to account for the process of secretion: we know also that the agency of chemistry in forming various compounds by different combinations of certain elements, is also inadequate to determine the nature of the process, and we have abundant instances on record of animals having a defective nervous system, or monstrous beings, deficient of a brain or nervous system, which have lived several hours, and in whom various secretions have been known to have been produced and maintained. Although, however, we are unable to account for secretion by any one of these powers, we yet see that their existence and co-operation with each other is absolutely necessary to create it. In what way the several powers act, and the parts they perform in this important process, are subjects deserving the minutest attention, and of which to the present time we may be regarded as in ignorance. All we appear to know upon the subject seems to be that we have in the blood a peculiar fluid which contains the elements from which the various secretions, composing the constituents of

the human body, can be eliminated—these secretions, however, are not to be detected as existing in the blood, agreeably to Haller's idea; nor can we see clearly how they can be produced from it: we reasonably, therefore, suppose that, partly by mechanical means, and partly by chemical relations, under the influence of the vital or nervous system, these changes are effected, and by which the secretions are formed, and substances identical with those composing the body are generated."

As the principles of the mechanical school fail to account for the operations of the animal system in health, so do they fail to explain satisfactorily the various diseases to which it is exposed. It is needless to pursue the matter further, as they are now without supporters; but it may amuse the reader to know that they were actually applied even to the remedies employed for curative purposes. In the "*Philosophical Transactions*," vols. xxiv. and xxvi., may be seen a table constructed by Dr. Cockburn, in which the different purgatives, emetics, and other medicines made use of are enumerated, their several doses being adjusted by mathematical rules, and with mathematical precision, according to the patient's sex, age, and constitution. The doses of the medicines are as the squares of the constitutions! It is difficult to believe that anything so chimerical and fantastic could have been entertained in the eighteenth century; yet Dr. Balguy, in the "*Edinburgh Medical Essays*," studied it minutely, and attempted to correct what he considered to be the errors of the table. "You are to dose," he says, "so much of the medicine as is spent on the stomach and intestines, directly as the constitution; and so much as is carried into the blood, as the square of the constitution, and the sum into the person's size is the quantity required!"

But while Boerhaave sought to adapt to mechanical principles and mathematical rules the functions of the body in

health, the phenomena, causes, and symptoms of disease, and even the action of medicines for their relief, in practice he was more sagacious and less rigid than in his theory, and depended almost solely upon his close observation of nature and extensive experience. It must be conceded, however, that he excelled rather as a lecturer or teacher than as a practitioner; in the former capacity he brought to bear upon the discharge of his duties a keen discrimination, a comprehensive intellect, a well-informed mind, and a cool judgment.

In 1709 he succeeded Dr. Hotten, as Professor of Medicine and Botany; and in his inaugural discourse, *Oratio quâ repurgatæ Medicinæ facilis asseritur Simplicitas*, pleaded powerfully for a revival of the system of Hippocrates, and endeavoured to establish the science of Medicine on the immutable foundations of observation and experiment. He was a most enthusiastic botanist, and such was his ardour and perseverance in the collection of plants, that it became necessary to enlarge the Botanical Garden at Leyden to twice its original area. He published descriptions of several new plants, and formed many new genera. A just compliment was paid to him in 1714, in his appointment to the rectorship of the University. In the same year he succeeded the celebrated Bidloo in the chair of practice in physic, and was made President of the Chirurgical College. He may be described as the founder of clinical instruction in medicine; for he not only gave lectures on medicine, but also explained cases in the hospital to his pupils. He published at this time two medical works which formerly enjoyed a substantial repute—“*Aphorismi de Cognoscendis et Curandis Hominum Morbis*” (known in England as the “Medical Aphorisms”) and his “*Institutiones Medicæ*.”

To record the professional career of Boerhaave is to record an unbroken series of successes. Few physicians have been

so uniformly prosperous, have found their path so free from obstacles. In 1718 he succeeded Le Mort in the Chemical chair, and his inaugural discourse, *De Chemiâ suos Errores expurgante*, formed the basis of his great work on the "Elements of Chemistry." In 1721 he delivered a graceful oration on the decease of Professor Bernard Albinus, the father of the celebrated anatomist*; and, four years later, resigned the rectorship of the University, delivering at the same time a discourse on the method of obtaining certainty in Physics—*Oratio de Comparando Certo in Physicis*. A third and very severe attack of gout, from which he suffered much, compelled him to resign, in 1729, the professorships of Chemistry and Botany—in his final address to his pupils referring to the doctrines of Hippocrates, and declaring that man to be the most successful physician who knew how to wait for and support the efforts of nature. Elected a second time rector of the University in 1730, he relinquished it, through continued weakness, in February, 1731; but continued to attend to his private practice until his death, in 1738, in his seventieth year. He died of excessive corpulency and hydrothorax. Two years previously he had described his disorder in a letter to a medical friend:—"Me prehendit vomica in Pulmone, spiritum præforans ad levissimos corporis motus, a tribus abhinc mensibus quotidie increscens. Si causa augetur opprimet, si verò rumpitur eventus incertus. Quicquid fiet, id omne continget ex arbitrio superioris numinis. Cur ego metuam, quid cupiam aliud! Adoremus DEUM! sufficit. Interim curo sedulo ut lectissima adhibeam remedia, ut leniam

* The family of the Albini are distinguished in medical history. The father, Professor Bernard Albinus, was born in 1653, died in 1721. He had three sons—Bernard Siegfried, 1696–1770, an anatomist of great and deserved celebrity; Christian Bernard, born in 1698, who taught anatomy with success at Utrecht; and Frederick Bernard Albinus, born in 1715, who succeeded Bernard Siegfried as professor of anatomy and surgery at Leyden.

et maturem, securus de exitu. Vixi ultra 68 annos, semperque lætus."

Boerhaave was a man of strong religious convictions; and Haller states that he had frequently heard him say, when speaking of the precepts of the Gospel, that the Divine Teacher had shown in the Bible far more knowledge of the human heart than Socrates with all his wisdom. He was a true, constant, and generous friend. As a man he was dispassionate in contending for the truth—of the highest integrity—rigidly just and impartial—"modest without meanness, and steadfast without rudeness." His manners were distinguished by their simplicity and geniality. He was by no means deficient in humour, and with subtle comical touches frequently enlivened his lectures. His reading was wide and various, his learning profound; he wrote with accuracy in Latin and French, and could converse freely in Latin, French, English, German, and Dutch. He also read Italian and Spanish. Probably he was so great as a physician because he was so versatile as a scholar.

He was a very early riser, and even when his professional practice was at its height, devoted several hours a day to study. His great recreation was music; and when worn with the stress of his daily duties, he would refresh himself by singing and by playing on the violin. His knowledge of the science of music was very considerable, and it is evident from his lectures on Sound and Hearing that he had read the principal authorities on the subject, both ancient and modern. Botany was also one of his favourite amusements. Towards the end of his life he withdrew very frequently to his country seat, and spent hours in the cultivation of a choice and extensive garden, which was planted with many exotics and other rare products of the vegetable kingdom.

His principal works, which have been carefully edited by Haller, are :

1. *Institutiones Medice*, 1708, containing an account of the origin, progress, and success of Medicine, and of its several divisions. This has been superseded by later authorities.

2. *Aphorismi de Cognoscendis et Curandis Morbis*, 1709. An English translation, by Dr. Delacoste, was published in 1715. It consists of the notes or heads on which Boerhaave founded his annual lectures.

3. *Libellus de Materia Medica et Remediorum Formulis*.

4. *Epistola ad Ruyschium Clarissimum pro sententiâ Malpighianâ de fabricâ glandularum in corpore humano*, 1722. The world has no time now-a-days to take up the mouldy controversies of the past, but in this epistle Boerhaave defends the doctrine of Malpighi, on the structure of the glands, against its opponents. [Malpighi, the father of physiological science, was born near Bologna in 1628, and died at Rome in 1694. It was he who first examined the circulation of the blood by means of the microscope, and traced the progress of the egg during incubation. To his intelligent labours anatomists owe their knowledge of the structure of the lungs. A very valuable and interesting essay on Malpighi will be found in Litré's *Médecine et Médecins*.]

5. *Elementa Chimice*, 1732. Out of date, but an excellent work; the historical portion is full of interest.

In vols. xxxviii. and xxxix. of the "Philosophical Transactions" are three papers by Boerhaave, entitled *De Mercurio Experimenta*, from which we gather that Boerhaave once believed in the teaching of the Alchemists—Paracelsus, Van Helmont, and Basil Valentine—as to the transmutation of metals. Accordingly he made strenuous efforts to accomplish the purification of quicksilver. But although with unsurpassable perseverance he "tortured it by conquassation, trituration, digestion, and by distillation, either alone or amalgamated with lead, tin, or gold, repeating this operation to 511, and even to 877 distillations, what was the result? It appeared

rather more bright and liquid, without any other variation in its form or virtues, and acquired very little, if any, increase of its specific gravity : indeed, by constant and violent agitation for months together, it would exhibit a *black*, and preserved so long in certain degrees of heat, precipitate a *red*, powder ; but both these powders, by greater degrees of heat, were convertible into the self-same quicksilver from which they were by those means prepared."

Boerhaave at one time contemplated a chronological history of the Alchemists, with the purpose of showing that, from Geber to Stahl, they had all fallen into the same error. He had studied his subject with much care ; having read over the works of Paracelsus four times, and those of Helmont seven times—a feat which, I should think, no one but Boerhaave ever accomplished.

CHAPTER III.

MEDICINE AND LITERATURE.

No man can serve two masters, and he who endeavours to be both physician and man of letters can hardly expect to attain an equal celebrity in both characters. Yet the following pages will show that the combination of medicine and literature has not been unsuccessful; that it by no means follows that a good physician should be, let us say, a bad poet, though it is quite true that a bad poet has sometimes made a good physician. What is certain is, that many eminent medical practitioners have cultivated the fields of literature with vigour and good fortune.

The first name* that attracts us in this connection is

SIR THOMAS BROWNE, 1605-1682.

But the author of the "Religio Medici" is better known as a strong, independent thinker and great master of English

* Mention should be made, perhaps, of Thomas Lodge, the Elizabethan poet and physician, though he did not carry on the two vocations together, but gave up poetry before he practised physic. He was born in London about 1557 or 1558; entered Merchant Taylors' School in 1571, and Trinity College, Oxford, in 1573, where, four years afterwards, he took his degree of B.A. He was admitted into the Society of Lincoln's Inn in 1578. His first work of importance was "The Delectable History of Forbonius and Prisceria," in 1584. Then came "Scilla's Metamorphosis," 1589, and his *chef d'œuvre*, "Rosalynde: Euphues' Golden Legacy," 1590. He went on an adventure to Brazil and Patagonia, with the circumnavigator Cavendish, in 1591-1593. Among his later works are "Euphues' Shadow," and the two plays of "The Looking Glass," and "The Wounds of Civil War"; "The Devil Conquered," "A Fig for Momus," and "A Margarite of America." About 1599 he took the degree of M.D. at Avignon, and began to practise in London. In October, 1602, he was incorporated in the University of Oxford, and in 1603 published a "Treatise of the Plague." He was very successful as a medical practitioner, and Heywood, in 1609, ranks him among the six most celebrated English physicians. He died of the plague in 1625.

prose than as a physician. His fame is not professional, but general; he belongs not to *Æsculapius* but to *Minerva*. Among the men of letters of his time few interest us more deeply. The ripeness and elevation of his ideas move us not less than their originality. No man shows less dependence upon others; his intense individualism throbs in every page; he draws his own ground plans, and builds with his own materials. The structure reared is broad-based and stately, with heaven-aspiring pinnacles and ample span of roof, with a wealth of apt and adequate decoration—carved frieze and pediment, and golden architrave. Further, it is completely and compactly wrought, the workmanship being always of the best; no part left unfinished, every stone set square and firm.

Sir Thomas Browne draws us by this distinct and rare personality of his, and we are neither unconscious of nor averse from the attraction. We relish his fine and weighty thoughts, his fantastical touches of humour, his air of serene dignity, his calm but somewhat melancholy composure. We listen with increasing delight to his wise and serious speech, with its under-current, as it were, of rolling organ music. The mind loves to take up and examine the beautiful images which he distributes as freely as an Oriental beauty her gems.

The son of an affluent London merchant, he was born in Cheapside, London, on October the 19th, 1605. He was educated at Westminster School; proceeded thence to Broadgate Hall (now Pembroke College), Oxford; and after taking the degrees of B.A. and M.A., turned his attention to the study of physic. For some time he practised in Oxfordshire; then, after a brief visit to Dublin, went on his travels in France and Italy, and Holland; where, at Leyden, he graduated as Doctor of Medicine (1633). Three years later he established himself as a physician at Norwich, having married a beautiful and attractive lady named Mitcham, who proved an affectionate wife and mother, and bore him ten children, of whom six survived.

His house at Norwich must have been an old one when he settled down in it. In the course of long years of careful acquisition, it became "an odd cabinet of antiquities—antiquities properly so-called," says Mr. Pater; "his old Roman, or Romanized British urns, from Walsingham or Brampton, for instance; and those natural objects which he studied somewhat in the temper of a curiosity-hunter or antiquary. In one of the old churchyards of Norwich he makes the first discovery of *adipocere*, of which grim substance 'a portion still remains with him.' For his multifarious experiments he must have had his laboratory. The old window-stanchions had become magnetic, proving, as he thinks, that iron 'acquires verticity' from long lying in one position. Once we find him re-tiling the place. It was then, perhaps, that he made the observation that bricks and tiles also acquire 'magnetic alliciency'—one's whole house, one might fancy; as indeed he holds the whole earth to be a vast lode-stone."

Mr. Pater attributes the very faults of his literary work—faults which, I think, are not wholly displeasing to the reader, such as its desultoriness, its slow latinity, and the lengthy leisurely terminations—to "the long quiet" of his Norwich home. Yet, as Mr. Pater admits, Browne was by no means indolent. "Besides wide book-learning, experimental research at home, and indefatigable observation in the open air, he prosecutes the ordinary duties of a physician; contrasting himself indeed with other students, 'whose quiet and unmolested doors afford no such distractions.' To most men of mind sensitive as his, his chosen studies would have seemed full of melancholy, turning always, as they did, upon death and decay. It is well, perhaps, that life should be something of a 'meditation upon death': to many, certainly, Browne's would have seemed too like a life-long following of one's own funeral. A true museum is seldom a cheerful place—oftenest induces the feeling that nothing could ever have been

young; and to Brown the whole world is a museum; all the grace and beauty it has being of a somewhat mortified kind. Only, for him, (poetic dream or philosophic apprehension, it was this which never failed to evoke his wonderful genius for exquisitely impassioned speech) over all those ugly anatomical preparations, as though over miraculous saintly relics, there was the perpetual flicker of a surviving spiritual ardency, one day to re-assert itself—stranger far than any fancied odylic gravelights.”

When Browne settled at Norwich he had already completed his “*Religio Medici*,” which, therefore, owes nothing to the influences of “the long quiet” and leisure of his old-world home. It had been lying by him for seven years, circulating in manuscript among his friends, when, in 1642, an imperfect printed version from one of the manuscript copies, “much corrupted by transcription at various hands,” made its appearance anonymously. Falling into the hands of young Sir Kenelm Digby, he prepared a criticism upon it from the point of view of an ardent Catholic. Before the criticism was published, Browne heard of its author’s intention, and wrote a letter to Sir Kenelm, in which he assured him that his book “was penned many years past, and with no intention for the press, or the least desire to oblige the faith of any man to its assertions; that it was contrived in his private study, and as an exercise unto himself, rather than an exercitation for any other; that it had passed from his hand under a broken and imperfect copy, which by frequent transcription had still run forward into corruption. If,” he adds, “when the true copy shall be extant, you shall esteem it worth your vacant hours to discourse thereon, you shall sufficiently honour me in the vouchsafe of your refutation, and I oblige the whole world in the occasion of your pen.”

To this skilfully insinuated flattery, Sir Kenelm replied in a similar spirit. After stating that he had recalled his criticism,

he pretends that to anything so slight as that little effort of his, Browne cannot possibly be alluding, but that there must be something printing from another and weightier pen. "What I writ," he says, with airy indifference, "was but the employment of one sitting"—so easily do great geniuses perform their tasks! Between his perusal of the book and the writing of the criticism, scarce twenty-four hours elapsed—so rapid was his potent quill! "I pretend to no learning," he says (with the pride that apes humility): "to encounter such a sinewy opposite, or make animadversion upon so smart a piece as yours, is requisite a solid stock and exercise in school-learning; my superficial besprinkling will serve only for a private letter, or a familiar discourse with lady auditors. With longing, I expect the coming abroad of the true copy of that book, whose false and stolen one hath already given me so much delight; and so assuring you, I shall deem it a great good fortune to deserve your favour and friendship."

The result of this curious correspondence was the publication of a correct edition of the "*Religio Medici*," with the author's name attached. "There have been many efforts to formulate the religion of a layman, which might be rightly understood, perhaps, as something more than what is called natural, yet less than ecclesiastical, or 'professional' religion. Though its habitual mode of conceiving experience is on a different plan, yet it would recognize the legitimacy of the traditional interpretation of that experience, generally and by implication; only, with a marked reserve as to religious particulars, both of thought and language, out of a real reverence or awe, as proper only for a special place. Such is the lay religion, as we may find it in Addison, in Gray, in Thackeray; and there is something of a concession—a concession on second thoughts—about it. Browne's '*Religio Medici*' is designed as the expression of a mind more difficult of belief than that of the mere 'layman'; it is meant for

the religion of the man of science. Actually, it is something less to the point, in any balancing of the religious against the worldly view of things, than the proper religion of a layman. For Browne, in spite of his profession of boisterous doubt, has no real difficulties, and his religion certainly nothing of the character of a concession."

Exception has sometimes been taken to the fine passage in which he says of himself, that "his life has been a miracle of thirty years; which to relate, were not history, but a piece of poetry, and would sound like a fable." The critics object that no remarkable occurrences are related in Browne's biography. But, surely, this is to construe in a curiously prosaic manner our author's imaginative speech. I conceive that he meant simply to emphasize the wonderfulness of human life; for to a mind like his, so full of awe and reverence, every day, every hour, brought with it something mysterious and difficult of comprehension. Our sleep—our awaking—are not these miraculous? Our daily escapes from imminent hazards—are not these miraculous? In all the conditions under which we live our lives, the serious thinker finds, I take it, a miraculous element.

Browne's practice at Norwich soon widened over a considerable circle, and patients resorted to him for advice from many miles around. In 1637 he was incorporated Doctor of Physic in the University of Oxford. We can gather from his correspondence a tolerably clear idea of the pursuits which, in his leisure hours, occupied his active intellect. It is evident that the so-called "occult sciences" attracted him powerfully; and we find him exchanging notes of inquiry and observation with William Lily, the astrologer, and Dr. Dee, whom, he says, he had often heard affirm, "sometimes with oaths, that he had seen transmutation of pewter dishes and flagons into silver (at least), which the goldsmiths of Prague bought of him." We perceive, too, that he is a close

and honest investigator of Nature, with an eye for strange animals, plants, fossils, and the like; and that the famous Norfolk "broads" and fens, with their wealth of animal and vegetable life, constantly engaged his interest. One day he comes upon "a *Scarabæus capricornus odoratus*," which he thinks to be the species "mentioned by Monfetus, folio 150. He [Monfetus] saith, '*Nucem moschatam et cinnamomum vere spirat*'—to me it smelt like roses, santalum, and ambergris." Another time he speaks of a "*Musca tuliparum moschata*," "a small bee-like fly of an excellent fragrant odour, which I have often found at the bottom of the flowers of tulips."

His domestic letters are very charming, and show us husband and wife united by golden threads of love and sympathy, and preserving the most affectionate relations with their children. We read of the religious daughter, Dorothy, and her attendance at daily prayers; and of the adventurous son Tom, who went into the Navy, and after much gallant service, died in his early manhood, leaving a third Tom, the grandson, whose winning ways and pretty tricks are carefully recorded. We read also of another son, Edward, who shared his father's studies, in due time became a famous London physician, and attended the Earl of Rochester in his last illness.

In 1646 Browne published his "*Pseudoxia Epidemica: or, Enquiries into very many received Tenets and commonly presumed Truths, or Enquiries into vulgar and common Errors.*" This is not the best, though it is one of the most attractive of Browne's works; abounding in terse criticism, curious speculation, literary fancy, apt suggestion, picturesque description, and strange touches of credulity. Its character is best understood by a specimen of its matter. As, for instance:—

"Wondrous things are promised from the glow-worm; thereof perpetual lights are pretended, and waters said to be distilled which afford a lustre in the night: and this is asserted by Cardan, Albertus, Gaudentinus, Migallus, and

many more. But hereto we cannot with reason assert; for the light made by this animal depends upon a living spirit, and seems by some vital irradiation to be actuated into this lustro. For when they are dead, they shine not, nor always while they live, but are obscure or light according to the diffusion of this spirit, and the protrusion of their luminous parts, as observation will instruct us. For this flammeous light is not over all the body, but only visible on the inward side, in a small white part near the tail. When this is full and seemeth protruded, there ariseth a flame of a circular figure, and emerald-green colour, which is more discernible in any dark place, than day; but when it faileth and seemeth contracted, the light disappeareth, and the colour of that part only remaineth. Now this light, as it appeareth and disappeareth in their life, so doth it go quite out at their death—as we have observed in some, which, preserved in fresh grass, have lived and shined eighteen days; but as they declined, their light grew languid, and at last went out with their lives. Thus also the Torpedo, which alive, hath power to stupefy at a distance; hath none, upon contact, being dead, as Galen and Rondeletius particularly experimented. And thus far also these philosophers concur with us, which held the sun and stars were living creatures, for they conceived their lustre depended on their lives: but if they ever died, their light must also perish.”

Our keen dissector of vulgar errors was, nevertheless, a believer in witchcraft, and in the supernatural powers of the Pagan oracles.

In 1658 the discovery of some ancient urns in Norfolk suggested to Browne his eloquent and pathetically beautiful “Hydriotaphia: a Discourse of Selpulchral Urns,” which no man of taste can read without admiration. A small tract of some fifty or sixty pages, Browne was two years meditating over it, and elaborating its stately eloquenco of style, which

rises upon the ear with the serious pomp of a funeral march. Each chapter or paragraph begins and ends with a rich full chord as from an organ:—"When the funeral pyre was out, and the last valediction over"—"And a large part of the earth is still in the urn unto us." There is a vast amount of recondite learning in it; for though it has much of the character of a poem—is more of a poem than, for instance, Blair's "Grave"—it is also a treatise on the "Urn-burial" of antiquity, and presents a store of curious information respecting the old forms of sepulture. Browne thinks that the practice of burying the body and that of burning it were equally ancient. Tradition relates that Adam was buried near Damascus or Mount Calvary; and that Abraham and the Patriarchs were also buried. On the other hand, Hector was burned before the gates of Troy. Among the Romans, the consul Manlius burnt his son's body; but Numa, in obedience to a provision of his will, was not burned but buried. The two ceremonies seem, therefore, to have been alike in antiquity and repute. He attributes the origin of cremation to the opinions of those ancient philosophers who conceived that fire was the master principle in the composition of our bodies; and, accordingly, funeral piles were built up in order to resolve them more speedily into their native element. The Indian Brahmins, he thinks, "are too great friends unto fire, for they imagine it the noblest way to end their days in fire, and therefore burn themselves alive." He proceeds to describe the various modes of interment in use among different nations, and remarks that the rites of sepulture seem not to be confined to man, for there would appear to be something of the kind adopted by elephants, cranes, ants, and bees: "the latter civil body," he says, "at least carry out their dead, and hath exequies, if not interments."

He comments upon the discovery of cinerary urns and bones at Walsingham, which had suggested the composition

of his treatise ; and gives his reasons for thinking them to be Roman. Then he wanders away into a learned dissertation upon the funeral customs of the Greeks, the Romans, the Egyptians, the Jews, the Danes ; and decides in favour of *cremation*, or burning ; for “ to be knaved out of our graves,” he says, “ to have our skulls made drinking bowls, and our bones turned into pipes, to delight and sport our enemies, are tragical abominations, escaped in burning burials.”

To the “*Hydriotaphia*,” Browne added another upon “*The Garden of Cyrus ; or The Quincunxial Lozenge of the Ancients*,” in which, with his usual multifarious learning and vivid fancy, he considers every product of art and nature bearing the slightest resemblance to the form of the quincunx, and ingeniously traces that resemblance in a vast number of things hitherto unthought of by the reader. Numerous curious illustrations of the laws of vegetation and the forms of plants are introduced ; from which it appears that he was a close and accurate observer of the modes of germination, and that he watched with great care the evolution of the parts of plants from their seminal principles.

Among his posthumous works we may mention—“*Observations upon Several Plants mentioned in Scripture*” ; “*Of Garlands, or Coronary or Garden Plants*” ; “*A Letter on the Fishes eaten by our Saviour with His disciples, after His Resurrection from the Dead*” ; “*Answers to Certain Queries about Fishes, Birds, and Insects, and a Letter of Hawks and Falconry, Ancient and Modern*” ; “*On Languages, and particularly the Saxon Tongue*” ; and “*Christian Morals*.” This list is not complete.

In 1665, Browne was chosen an honorary fellow of the College of Physicians ; and in 1671 received the honour of knighthood from Charles II. at Norwich, where he died of colic, in his seventy-sixth year, on the 19th of October, 1682.

We have spoken of him as a scholar, a thinker, and a phy-

sician. One of his friends, the Rev. John Whitefort, Rector of Heigham, has left the following account of him as a man :—

“His complexion and hair were, like his name, brown, his stature moderate, his habit of body neither fat nor lean. In his clothing he had an aversion to all finery, and affected plainness both in the fashion and ornament. He kept himself always very warm, and thought it most safe so to do, though he never loaded himself with such a multitude of garments as Suetonius reports of Augustus, enough to clothe a good family. He was never seen to be transported with mirth, or dejected with sadness. His modesty was visible in a natural habitual blush, which was increased upon the least occasion, and oft discovered without any observable cause. Those who knew him only by the briskness of his writings were astonished at his gravity of aspect and countenance, and freedom from loquacity. Always cheerful, but rarely merry; seldom heard to break a jest, and when he did he would be apt to blush at the levity of it: his gravity was natural without affectation. Parsimonious in nothing but his time, whereof he made as much improvement with as little loss as any man in it; when he had any to spare from his practice, he was scarce patient of any diversion from his study: so impatient of sloth and idleness that he would say, *he could not do nothing*. He understood most of the European languages, Latin and Greek critically, and a little Hebrew. He went to church constantly, when he was not prevented by his practice, and never missed the sacrament of his parish if he was in town. He read the best English sermons he could hear of, and delighted not in controversies. He might have made good the old saying of *Dat Galenus opes*, had he lived in a place that could have afforded it, but there was small scope at Norwich to acquire great professional gains.”

His monument, in the church of St. Peter Mancroft, Norwich, bears the following record of dates :—“Near the

Foot of this Pillar lies Sir Thomas Browne, Kt. and Doctor in Physick; Author of 'Religio Medici' and other Learned Books, who practised Physick in this city 46 years, and died Oct. 1682, in the 77th year of his age. In Memory of whom Dame Dorothy Browne, who had bin his Affectionate Wife 41 years, caused this Monument to be Erected."

JOHN LOCKE, 1632-1704.

John Locke, one of the greatest of English Philosophers, was born at Wrington, in Somersetshire, on the 29th of August, 1632. His father, a small landowner or yeoman, had served in the Parliament army under Colonel Popham, by whose advice he sent his thoughtful and studious son to Westminster School. In 1651, he was entered at Christ Church, Oxford, where he soon became disgusted with the Aristotelian philosophy, then so much in vogue—turned his attention to the writings of Bacon, and thoroughly imbued himself with the great master's teaching. His scientific tastes led him to embrace the profession of Medicine, and in the necessary studies his progress was rapid and thorough. He practised for a short time in Oxford,* but found the delicacy of his constitution an almost insuperable obstacle to success. In 1664 he accompanied, as secretary, Sir William Swan, on an embassy to the Elector of Brandenburg. After a year's absence he returned to Oxford, where he made the acquaintance of Lord Ashley—afterwards Earl of Shaftesbury. Lord Ashley had been sent to drink mineral waters at Aston for an abscess in the breast. He wrote to Dr. Thomas, an Oxford physician, to have the waters ready for him on his arrival. But it so happened that Dr. Thomas had to attend a patient at a distance, and he invited his friend, Mr. Locke, to act as his *locum tenens*. Locke commissioned a person to procure

* He appears not to have taken a degree until 1674, when he graduated as M.B.

the waters, but this person disappointed him, and accordingly he called upon Lord Ashley to explain and apologize for the *contretemps*. Lord Ashley kept him to supper, and next day entertained him at dinner. He found Locke's conversation so charming in its thoughtfulness, liberality, and grace—and profited so much by his medical advice—that he invited him, in 1667, to give up medicine as a profession, and to become an inmate of his house. In this way Medicine, in all probability, lost an illustrious ornament—for we may be sure that Locke would have pursued the path of original experiment and investigation—but Literature gained a great philosophical writer. As such, he passes out of the range of the present work; but the general outline of his career furnished by Sir James Mackintosh may fitly serve as an epilogue to this brief notice:—

“Educated among the English dissenters [the Puritans], during the short period of their political ascendancy, he early imbibed that deep piety and ardent spirit of liberty which actuated that body of men; and he probably imbibed also in their schools the disposition to metaphysical inquiries which has everywhere accompanied the Calvinistic theology. Sects founded in the right of private judgment, naturally tend to purify themselves from intolerance, and in time learn to respect in others the freedom of thought to the exercise of which they owe their own existence. By the Independent divines who were his instructors, our philosopher was taught those principles of religious liberty which they were the first to disclose to the world. When free inquiry led him to milder dogmas, he retained the severe morality which was their honourable singularity, and which continues to distinguish their successors in those communities which have abandoned their rigorous opinions. His professional pursuits afterwards engaged him in the study of the physical sciences, at the moment when the spirit of experiment and

observation was in its youthful fervour, and when a repugnance to scholastic subtleties was the ruling passion of the scientific world. At a more mature age, he was admitted into the society of great wits and ambitious politicians. During the remainder of his life, he was often a man of business and always a man of the world, without much undisturbed leisure, and probably with that abated relish for merely abstract speculation which is the inevitable result of converse with society and experience in affairs. But his political connections agreeing with his early bias, made him a zealous advocate of liberty in opinion and in government; and he gradually limited his zeal and activity to the illustrations of such general principles as are the guardians of these great interests of human society. Almost all his writings, even his Essay [concerning Human Understanding] itself, were occasioned, and intended directly to counteract the enemies of reason and freedom in his own age. The first Letter on Toleration, the most original perhaps of his works, was composed in Holland, in a retirement when he was forced to conceal himself from the tyranny which pursued him into a foreign land; and it was published in England in the year of the Revolution, to vindicate the Toleration Act, of which the author lamented the imperfection."

Notwithstanding his delicate constitution, Locke reached the good old age of seventy-two. His last years were happily spent at Oates, near High Laver, in Essex, the seat of Sir Frederick Masham, who had honoured himself by offering the philosopher a home, and whose accomplished wife soothed his infirmities by her tender and assiduous attentions. Here he died on the 28th of October, 1704. He was buried in a vault in High Laver churchyard, close to the south porch. On the wall above is a black marble slab, with a long Latin inscription to his memory, written by himself some three or four years previous to his decease.

SIR RICHARD BLACKMORE.

In the year of Browne's death, a student at Edmund Hall, Oxford, was slowly preparing himself for a place among the literary physicians and medical knights—a place of inferior note, however, to that which the author of the "*Religio Medici*" incontestably occupies, like a king, by the grace of God, and the will of the people.

Among the letters of Addison is preserved one to Mr. Jacob Tonson, publisher, respecting a translation of *Herodotus* by "various hands," which Tonson had projected. This literary confederacy included Dr. Hannes, the fashionable physician already spoken of, and Dr., better known as Sir Richard, Blackmore, physician and poet. Blackmore was a Tory and a strict moralist, as well as a portentously dull and heavy versifier. He wrote more absurdities, says Cowper, than any other person; certainly his epics are a weariness to the flesh—to be read only as Lenten fare on days of penitence and fasting. Such a man was, naturally enough, the butt of the Whig wits of the day; and Garth, a brother-practitioner, railed at him in some stinging verses which reflected on his early vocation as a schoolmaster and his later vocation as a writer of epic poems. They are addressed "to the Merry Poetaster, at Sadler's Hall, in Cheapside":—

"Unwieldy pedant, let thy awkward muse
With censures praise, with flatteries abuse;
To lash and not be felt, in thee's an art,
Thou ne'er mad'st any but thy schoolboys smart.
Then be advised and scribble not again—
Thou'rt fashioned for a flail and not a pen." . . .

Blackmore, whatever his failings as a poet, was a man of strong religious convictions; and, justly offended with the licentiousness of the Restoration Drama, he undertook the

composition of a poem which should act as a counterpoise on the side of morality. Such was the praiseworthy motive which originated his "Prince Arthur," an epic, in twelve books, written and published in 1695; and in its preface the new *ensor morum* commented severely on the indecencies of the contemporary stage, and rebuked the writers who concocted them. As for his own poem, it was composed, he said, by such catches and starts, and in such occasional uncertain hours as his profession afforded, and for the greatest part in coffee-houses, or in driving to visit his patients. But a great epic is not to be produced under such conditions as these; and one can hardly wonder that the wits seized upon the confession, and ridiculed him for turning his bad rhymes "to the rumbling of his coach's wheels."

Even the urbane Addison could not forego his jest at the physician-poet, who could make "a couple of heroic poems in a hackney coach and a coffee-house." Blackmore was not satisfied with a couple—he extended the list to a dozen or so; all equally well-intentioned and all equally tedious. It may be admitted that in one respect—and only one—they resembled Milton's immortal epic: they were quite as long! The poet had no mercy on his reader: he poured himself out in six books, in seven books, in ten books, in twelve books, as if it were not possible to have too much even of a good thing. I am spared the labour of enumerating his works in prose; Swift's list in rhyme—"to be put under Sir Richard Blackmore's picture"—will be much more entertaining:—

"See, who ne'er was, or will be half-read,
Who first sung Arthur,* then sung Alfred,†
Praised great Eliza ‡ in God's anger,
Till all true Englishmen cried, hang her! . . .

* Prince Arthur.

† King Alfred.

‡ Queen Elizabeth.

Then hissed from earth, grown heavenly quite,
 Made every reader curse the light ; *
 Mauled human wit in one thick satire ; †
 Next, in three books, spoiled human nature ; ‡
 Euded creation at a jerk, §
 And of Redemption made d——d work : ||
 Then took his Muse at once and dipped her
 Full in the middle of the Scripture.
 What wouders there the man grown old did ;
 Sternhold himself he out-Sternholded ;
 Made David seem so mad and freakish, ¶
 All thought him just what thought King Achish.
 No mortal read his Solomon, **
 But judged R'oboam his own son.
 Moses †† he served as Moses Pharaoh,
 And Deborah †† as she Sisera :
 Made Jeremy †† full sore to cry,
 And Job §§ himself curse God and die."

Dryden, too, levelled at the complacent versifier one of his heavy shafts ; for Blackmore was obnoxious to him in each of his characters—as a critic, a man of piety, a would-be poet, and a successful physician ; and he felt bound to avenge himself for Blackmore's denunciation of the coarseness and immoralities of his comedies. In his Prologue to "The Pilgrim" (1700) he thundered at Sir Richard with trenchant vigour :—

"Quack Maurus, though he never took degrees
 In either of our Universities ;
 Yet to be shown by some kind wit he looks,
 Because he played the fool and writ these books.
 But, if he would be worth a Poet's pen,
 He must be more a fool, and write again :

* *Hymn to Light.*

† *Satire against Wit.*

‡ *Of the Nature of Man.*

§ *Creation, an epic, in seven books.*

|| *Redemption.*

¶ *Psalms, versified.*

** *Song of Songs and Ecclesiastes.*

†† *Canticles of Moses, Deborah, etc.*

‡‡ *Lamentations of Jeremiah.*

§§ *The Whole Book of Job.*

For all the former fustian stuff he wrote
 Was dead-born doggerel, or is quite forgot ;
 His man of Uz, stript of his Hebrew robe,
 Is just the proverb and 'as poor as Job.'
 One would have thought he could no longer jog ;
 But Arthur was a level, Job's a bog.
 There, though he crept, yet still he kept in sight ;
 But here he founders in, and sinks down right.
 Had he prepared us, and been dull by rule,
 Tobit had first been turned to ridicule :
 But our bold Briton, without fear or awe,
 O'erleaps at once the whole Apocrypha ;
 Invades the Psalms with rhymes, and leaves no room
 For any Vandal Hopkins yet to come. . . .

At leisure hours, in epic song he deals,
 Writes to the rumbling of his coach's wheels,
 Prescribes in haste, and seldom kills by rule,
 But rides triumphant between stool and stool.

Well, let him go ; 'tis yet too early day,
 To get himself a place in farce or play.
 We know not by what means we should arraign him,
 For no one category can contain him ;
 A pedant, cautioning preacher, and a Quack,
 Are load enough to break one ass's back :
 At last, grown wanton, he presumed to write,
 Traduced two kings, their kindness to requite ;
 One made the doctor, and one dubbed the knight."

Blackmore became a Fellow of the College of Physicians on the 12th of April, 1687, in pursuance of the provisions of the new charter granted to the College by James II. It cannot be pretended that this gave James any special claim upon the physician's gratitude; but William III.'s favours came directly from himself. In acknowledgment of Sir Richard's professional skill and eminence, he appointed him a physician of the royal household; and as a reward for his loyalty to Whig principles and the Protestant succession, conferred upon him the distinction of knighthood.

It will have been seen that Dryden distinguishes between Blackmore's comparatively good and absolutely bad work—

between the level and the bog; and I think the impartial critic will admit, with Dr. Johnson, that the poem of "The Creation" wants neither harmony of numbers, accuracy of thought, nor elegance of diction. Blackmore, however, was neither born nor made "a poet." He was simply an educated gentleman, with a turn for rhyming and an appetite for applausé. "I am a gentleman of taste and culture," he wrote, "and though I cannot ever hope to build up the nervous lines of Dryden, or attain the polish and brilliance of Congreve, I believe I can write what the generation sorely needs—works that intelligent men may study with improvement, devout Christians may read without being offended, and pure-minded girls may peruse without blushing from shame. 'Tis true I am a hardworking doctor, spending my days in coffee-houses, receiving apothecaries, or driving over the stones in my carriage, visiting my patients. Of course a man so circumstanced must fail to achieve artistic excellence, but still I'll do my best."

Blackmore was born of a good family in Wiltshire, about the time that Oliver Cromwell rose to the Protectorate. His father was an attorney, who sent him to Westminster School and afterwards to Oxford, where, in 1676, he took the degree of M.A. He spent thirteen years in all under the ægis of the University, applying himself to his studies with laborious assiduity. Some obscurity rests upon the next stage of his career: it is known that he suffered severely from poverty, and became a schoolmaster—that he travelled in Holland, France, Germany, and Italy, taking his doctor's degree at Padua—but his biographers cannot explain to us the cause of his early adversity, nor how he afterwards procured the means to make a long Continental tour. He came to London; established himself at Sadler's Hall, Cheapside; and rapidly acquired an extensive and lucrative practice among the wealthy citizens. Knighted, as I have said, by King William III., Sir

Richard rolled the streets in a coach that made his professional rivals pale with envy ; and having reached middle age, shone forth upon the amazed town as an epic poet. Thereupon, as I have already hinted, the wits opened upon him like a pack of full-mouthed hounds. To have made fun of his verse would have been legitimate enough ; but with the coarse hostility of the age they ridiculed him as a physician, and broke their quips upon his former poverty and his experience as a schoolmaster. Sedley, and Blount, and Arlington, Steele, Swift, and Aphra Behn, the Countess of Sandwich, and many others, attacked him in lampoons, which are often dull, too frequently indecent, and generally unjust. "The Cheapside knight," as he was called, survived these attacks, and for many years held a high professional position. He died in 1729. Johnson's memoir of him is by no means remarkable for urbanity of criticism or fairness of judgment, but it concludes with an evidently sincere tribute to the irreproachableness of his character. "In some part of his life," he says, "it is not known when, his indigence compelled him to teach a school—a humiliation with which, though it certainly lasted but a little while, his enemies did not forget to reproach him when he became conspicuous enough to excite malevolence ; and let it be remembered, for his honour, that to have been a schoolmaster is the only reproach which all the perspicacity of malice, animated by wit, has ever fixed upon his private life."*

JOHN ARBUTHNOT, 1667-1735.

The friend of Pope and Swift, of Gay and Prior—most genial of humorists and readiest of wits—a successful conver-

* His medical writings include "A Discourse on the Plague" ; "A Treatise on Small-Pox" ; "A Treatise on Consumption" ; "On the Spleen and Vapours" ; and "On Gout, Rheumatics, King's Evil, Dropsy, Jaundice," etc.

sationalist and a polished gentleman—Dr. John Arbuthnot has left a pleasant memory among men of letters.

He was the son of a nonjuring clergyman, and born at Arbuthnot, in Kincardineshire, in 1667. At an early age he was sent to the University of Aberdeen, where he studied medicine, and took his M.D. degree. By what strange concatenation of circumstances he was led to set up in practice at far-away Dorchester, his biographers do not inform us; but he did not remain there long. He waited for patients awhile, and when they did not come, made his way to London, with all a young man's hopes and a young man's ambition. At first he had a sharp wrestle with adverse Fortune, and to save himself from starvation, became an usher, and taught mathematics. But by degrees his wit and his fine manners made friends; he again undertook a professional career, and his reputation was firmly established by his caustic "Examination of Dr. Woodward's Account of the Deluge" (1697), based upon Woodward's pretentious and laboured "Essay towards a Natural History of the Earth." Having the good fortune to be at Epsom when Prince George of Denmark was suddenly taken ill, he was called in, and treated the case so successfully, that he was appointed the Prince's regular physician. Only such an opening as this was needed for the handsome and accomplished Scotchman to secure a firm position in the world of fashion; and in 1709 he was made physician-in-ordinary to the Queen, as well as Fellow of the College of Physicians. In the world of letters he was already a favoured visitor. The wits and poets of the day quarrelled among each other with frequent bitterness; but no one quarrelled with John Arbuthnot. Though a Tory, he was *persona grata* with the political leaders of both parties. Swift felt a profounder affection for him than for any other of his friends, except, perhaps, Gay. Parnell and Matt Prior loved him greatly; and he found his way even to Pope's

narrow heart. The latter, addressing "the friend of his life," exclaims, in fond acknowledgment of his devoted friendship:—

"Why did I write? what sin, to me unknown,
Dipped me in ink?—my parents' or my own?
As yet a child, nor yet a fool to fame,
I lisped in numbers, for the numbers came.
I left no calling for this idle trade,
No duty broke, no father disobeyed.
The muse but served to ease some friend, not wife,
To help me through this long disease, my life,
To second, Arbuthnot! thy art and care,
And teach the being you preserved to bear."

In Swift's *Journal to Stella* numerous glimpses are offered of the witty physician. We see him flirting easily with maids of honour; dining at the taverns in Covent Garden and the City; smiling and jesting in subdued tones at the levées at St. James's; exchanging confidences with busy politicians. When Swift was away in Ireland, it was Arbuthnot who kept him conversant with the latest Court scandal and the newest party intrigue. In whatever atmosphere he happened to move, Arbuthnot, by means of his wonderful faculty of adaptability, bore himself like one who had always been accustomed to it; and was equally at ease in the Queen's presence-chamber as in the coffee-room at Will's.

A successful physician must not only know how to prescribe for the diseases of his patients, but how to accommodate himself to their humours; and of Arbuthnot's readiness a good story is told. "What is the time, Doctor?" said the Queen to him one day. "Whatever it may please your Majesty," he replied, with a courtly bow.

His wit usually partook of the natural suavity of his temper; but vice and folly could rouse him at times to an enduring anger, and then his satire scorched and stung, as in the terrible epitaph which he composed on the profligate

swindler, Colonel Chartres. For the reader's convenience I transcribe it here :—

“ Here continueth to rot the Body of Francis Chartres, who, with an indefatigable constancy, and inimitable Uniformity of life, persisted, in spite of Age and Infirmities, in the practice of every Human Vice, excepting Prodigality and Hypocrisy: His insatiable Avarice exempting him from the First, his matchless Impudence from the Second. Nor was he more singular in the Undeviating Pravity of his manners, than successful in accumulating Wealth: For, without Trade or Profession, without trust of public money, and without bribe-worthy service, he acquired, or more properly created, a ministerial estate. He was the only person of this time who could cheat without the Mask of Honesty; retain his primeval meanness when possessed of ten thousand a year; and having daily deserved the Gibbet for what he did, was at last condemned to it for what he could not do. Oh, indignant reader! Think not his life useless to mankind: Providence connived at his execrable designs, to give to After-ages a conspicuous proof and example of how small estimation is exorbitant Wealth in the sight of God, by His bestowing it on the most unworthy of Mortals.”

In 1713, Arbuthnot wrote one of the brightest of political satires, *Law is a Bottomless Pit; or, The History of John Bull*, in which he drew with merciless force an unfavourable portrait of the Duke of Marlborough, and endeavoured to rouse the public feeling against a prolongation of the French War. The allegory is clever in itself, and amazingly well sustained—with equal spirit and ingenuity—and with many touches of broad and genuine humour. Take, as a specimen, his description of John Bull, which has given the keynote to all later sketches of the coarser aspects of the English character:

"Bull, in the main, was an honest, plain-dealing fellow, choleric, bold, and of a very unconstant temper; he dreaded not old Lewis [France] either at backsword, single falchion, or cudgel-play; but then he was very apt to quarrel with his best friends, especially if they pretended to govern him; if you flattered him, you might lead him like a child. John's temper depended very much upon the air; his spirits rose and fell with the weather-glass. John was quick, and understood his business very well; but no man alive was more careless in looking into his accompts, or more cheated by partners, apprentices, and servants. This was occasioned by his being a boon-companion, loving his bottle and his diversion; for to say truth, no man kept a better house than John, nor spent his money more generously. By plain and fair dealing, John had acquired some plums, and might have kept them, had it not been for his unhappy lawsuit [the war with France]."

Arbuthnot joined Pope, Swift, Gay, and Parnell in forming the so-called Scribbler's Club, which was broken up on the death of Queen Anne and the accession of George I., when Swift went back, with rage at his heart, to his Irish exile, and Arbuthnot was deprived of his official position and residence at St. James's. The only literary result of the Club was the publication of the first book of "*Memoirs of the Extraordinary Life, Works, and Discoveries of Martinus Scriblerus*," which, though always included among Pope's works, was almost entirely the composition of Arbuthnot. Its object, according to Pope, was to satirize the follies, eccentricities, and false tastes of the learned, in the character of a man of ability, who had acquired more or less knowledge of every art and science, but of this knowledge could make no judicious use. The authors took Cervantes as their model, but they lacked the tolerant kindly genius, the deep humanity, and the wide sympathies of the great author of "*Don Quixote*." Martinus

Scriblerus is, however, a happy and humorous conception, from which Sterne did not disdain to borrow, and the book is not only witty, but wise.

Arbuthnot was also the author of some learned Dissertations on Ancient Coins, Weights, and Measures ; of a pungent "Art of Political Lying," and an amusing "Treatise concerning the Altercation or Scolding of the Ancients." As a whole, his writings fully justify Swift's epigrammatic description of him :—"He has more wit than we all have, and more humanity than wit." Both qualities are to be discovered in the epitaph which he wrote on a favourite greyhound :—

"To the memory of Signor Fido, an Italian of good extraction, who came into England, not to bite us, like most of his countrymen, but to gain an honest livelihood. He hunted not after Fame, yet acquired it : regardless of the Praise of his Friends, but most sensible of their Love. Tho' he lived among the Great, he neither learned nor flattered any Vice. He was no Bigot, tho' he doubted of some of the Thirty-Nine Articles ; and if to follow Nature, and to respect the laws of Society, be Philosophy, he was a perfect Philosopher, a faithful Friend, an agreeable Companion, a loving Husband, distinguished by a numerous Offspring, all of which he lived to see take good *Courses*. In his old age he retired to the House of a Clergyman in the Country, where he finished his earthly Race, and died an Honour and an Example to the whole Species. Reader, this Stone is guiltless of Flattery, for he to whom it is inscribed was not a Man, but a Greyhound."

In his later years our genial physician and humorist—prince of good fellows—suffered much from asthma and depression of spirits ; but struggled against his afflictions with unfailing good humour and unquenchable courage. In 1724 he took lodgings at Hampstead, hoping to benefit by its breezy, bracing air, and by the medicinal properties of its

waters, which at that time were very popular. He was disappointed in his expectations, probably because he did not impose upon himself the regimen he would certainly have enforced upon his patients. Pope, writing to Martha Blount, says:—"I saw Dr. Arbuthnot, who was very cheerful. I passed a whole day with him at Hampstead. He is in the Long Room half the morning, and has card parties every night." His illness was attributable in no small degree to his aversion to exercise. Swift said of him that he could do everything but walk.

He died at his house in Cork Street, Burlington Gardens, on the 27th of February, 1735.

SIR SAMUEL GARTH, 1668 (?)–1719.

Garth, the friend and contemporary of Arbuthnot, was a native of Yorkshire. The date of his birth is not known; but he took the degree of M.D. at Peterhouse, Cambridge, in 1691, and would probably then be about twenty-two or twenty-three years old. Repairing to London, he started at once as a medical practitioner, and on the 26th of June, 1693, was admitted a Fellow of the College of Physicians. At this period a contest was raging between the College and the Apothecaries, of which, as it fills a not uninteresting chapter in the history of the Healing Art in England, it will be desirable to explain the origin.

We have already shown that, at the outset, the position of the apothecary was a very humble one. He was simply a vendor of drugs, of the properties of which he had but an imperfect knowledge. With the sale of drugs he combined that of groceries. He was not allowed to dispense medicines on his own responsibility; and in surgery he was restricted to blood-letting, and that for only one disease. The leech, or doctor, made up his own nostrums, and sold them to his patients at

such prices as he thought remunerative. But as the "Art and Mystery of Medicine" developed, and new remedies were brought within reach of its practitioners, the importance of the apothecary's calling increased; and in the fourth year of James I., a charter was granted to "the Freemen of the Mystery of Grocers and Apothecaries of the City of London," constituting them "one body corporate and politic" by the name of "Warden and Commonalty of the Mystery of Grocers." Nine years later the apothecaries were delivered from this ignoble association; and on the recommendation of Sir Theodore Maycne and Dr. Henry Atkins, incorporated independently (1617).

Thenceforth their progress was rapid. In 1670 they built their celebrated Hall, the head-quarters of English pharmacy. Nominally, they were under the jurisdiction of the College of Physicians; but they strengthened their position daily, and so extended their influence that, in the eighteenth century, the doctors eagerly courted their recommendation and good will. As a matter of fact, the ordinary practitioner knew very little, if anything, more than the vendor of drugs on whom he had looked down so contemptuously from the height of his superior rank. After a time the leading apothecaries began to encroach on the province of the physician, and not only made up prescriptions, but prescribed them on their own responsibility. And when any regular physician threatened them with the displeasure of the College, they refused to call him in to consultations. Necessarily, the apothecaries began to fatten, while the doctors grew leaner and more haggard every day. This would never do; and the physicians consulted among themselves how they should meet the difficulty that had been sprung upon them. In 1687, at a College meeting, they decided that all members of the College, whether Fellows, Candidates, or Licentiates, should give their advice gratis to all "their sick neighbouring poor," when

desired, within the City of London, or seven miles round. But it was soon seen that nothing would be gained by this flank movement. The poor received their prescriptions gratis, but when they took them to the apothecaries, found that the cost of making them up was more than they could afford. A proposal was then started by the College committee that "the College should furnish the medicines of the poor, and perfect alone that charity which the apothecaries refused to concur in; and after divers methods ineffectually tried, and much time wasted in endeavouring to bring the apothecaries to terms of reason in relation to the poor, an instrument was subscribed by divers charitably-disposed members of the College, now in number about fifty, wherein they obliged themselves to pay ten pounds a piece towards the preparing and delivering medicines at their intrinsic value." Thus, in 1695-6 the first Dispensary was established, in the College of Physicians, Warwick Lane.

It was not an entirely successful innovation. As a matter of course, "vested interests"—*i.e.*, the apothecaries—protested against it, affirming that the physicians wanted to monopolize the trade in drugs, and ruin the druggists by underselling them. The physicians themselves were divided on the subject. Some considered that by the sale of medicines they were lowering their dignity. Others did not wish to lose the patronage of the apothecaries, who frequently consulted them on behalf of their patients, and lined their pockets with acceptable fees. Soon, therefore, the College was split up into hostile camps—the Dispensarians and the Anti-Dispensarians. The apothecaries "boycotted" the former, and declined to send them any patients; and the Anti-Dispensarians objected to meet them in consultation. It was under these circumstances that Garth, who was one of the Dispensarians, covered the opposite faction with ridicule in his satire of "The Dispensary." The press had already been invoked by

both sections in support of their respective contentions; but the chief characteristic of their productions had been violence and vulgarity. When Garth's poem appeared—with its humorous descriptions, its easy versification, and its comparative freedom from licence—it was natural, therefore, that the public should eagerly welcome it. If two bodies of combatants are pelting each other with mud, one feels grateful to the third party which turns on a broadside of clean water—even though it be “dashed” with vinegar! The reading world rejoiced in the comparative decency of Garth's poem, and hailed its satirical vigour with warm approval. Seven editions were issued in a twelvemonth. There were, of course, other reasons for this success: its publication took place at an opportune moment, and it appealed to the generous sympathies of its readers. “As its subject was present and popular,” says Dr. Johnson, it co-operated with passions and prejudices then prevalent; and, with such auxiliaries to its intrinsic merit, was universally and liberally applauded. It was on the side of charity against the intrigues of interest, and of regular learning against licentious usurpation of medical authority.”

“The Dispensary” is in six cantos. Some of its portraits of the leading professional men of the day are effectively drawn, but as these would have no interest for the modern reader, we take, as a specimen of its versification, the opening of the first canto:—

“Not far from that most celebrated place *
Where angry justice shows her awful face;
Where little villains must submit to fate,
That great ones may enjoy the world in state;
There stands a dome † majestic to the sight,
And sumptuous arches bear its oval height;
A golden globe, placed high with artful skill,
Seems, to the distant sight, a gilded pill;

* The Old Bailey.

† The College of Physicians.

This pile was, by the pious patron's aim,
 Raised for a use as noble as its frame ;
 Nor did the learned society decline
 The propagation of that great design ;
 In all her mazes, Nature's face they viewed,
 And, as she disappeared, their search pursued.
 Wrapped in the shade of night the goddess lies,
 Yet to the learned unveils her dark disguise,
 But shuns the gross access of vulgar eyes.

Now she unfolds the faint and dawning strife
 Of infant atoms kindling into life ;
 How ductile matter new meanders takes,
 And slender trains of twisting fibres makes ;
 And how the viscous seeks a closer tone,
 By just degrees to harden into bone ;
 While the more loose flow from the vital urn,
 And in full tides of purple streams return ;
 How lambent flames from life's bright lamps arise,
 And dart in coruscations through the eyes ;
 How from each sluice a gentle torrent pours
 To slake a feverish heat with ambient showers ;
 Whence their mechanic powers the spirits claim ;
 How great their force, how delicate their frame ;
 How the same nerves are fashioned to sustain
 The greatest pleasure and the greatest pain."

Mainly through Garth's intervention in the struggle, a temporary victory was scored by the College; temporary, because the House of Lords, in 1703, decided, on appeal, that Apothecaries were at liberty to prescribe medicines as well as compound them. Garth's personal triumph, however, was complete. He became a conspicuous figure in the literary circle of the metropolis. Politically, he was a Whig of the Whigs; but his literary sympathies were unrestricted by his political prejudices. He encouraged Pope, who acknowledged his kindly temper—

"Well-natured Garth inflamed with early praise"—

by dedicating to him his Second Pastoral, and maintained a

cordial friendship with him from 1703 until his death. In 1701 he delivered the funeral oration over the remains of Dryden. His closest intimacy, however, was with Addison; and he might almost always be found among the company of admirers who gathered round the literary Gamaliel in the symposia at Button's. In 1703, the Kitcat Club, composed of all the great Liberal statesmen, wits, and sages, appointed him their poet, inscribing his extempore verses to the Whig beauties, such as Ladies Carlisle, Essex, Hyde, and Wharton, on the Club's glasses. The sincerity of his political professions he proved, in 1710, by panegyrising his patron, Lord Treasurer Godolphin, when he succumbed to the attacks of the Tory leaders, Harley and St. John. In the Tory *Examiner* his production was furiously criticized, it was said, by Prior; whereupon Addison replied to the criticism in a strain of vigorous personalities. On the accession of George I., he shared in the good things which the royal gratitude showered on his Whig partisans; was knighted (as everybody knows) with Marlborough's own sword; and appointed physician-in-ordinary to the King, and physician-general to the Army.

Though Pope wrote of him, after his death—"If ever there was a good Christian, without knowing himself to be so, it was Dr. Garth," some doubt exists both as to his piety and his morality. In his last illness he sent to Addison to ask him "whether the Christian religion was true." He had long suffered from a weakness of constitution which made life a burden, and confessed to a Mr. Townley that he had once attempted suicide. His mortal weariness found expression in the strange remark that he was glad he was dying, for he was tired of having his shoes pulled on and off. "Gentlemen," he said to the friends who waited round his bed, "I wish the ceremony of death was over;" and lying back on his pillow, he sank peacefully into his last slumber.

He died on the 18th of January, 1719, at the early age

of forty-nine, and was buried in the chancel of the church of Harrow-on-the-Hill, in a vault which had previously been selected by himself.

Our physician and poet was fond of his jest, and some good stories in which he figures have been handed down to us. One day, when he was writing a letter at a coffee-house, an inquisitive Irishman looked over his shoulder, and coolly read every word he wrote. Without taking any notice, Garth finished his letter, and then added a postscript:—"I would write you more by this post, but there's a d——d tall, impudent Irishman looking over my shoulder all the time."

"What do you mean, sir?" exclaimed the angry Irishman; "do you think I looked over your letter?"

"Sir, I have not spoken a word to you," replied Garth.

"Aye, but you have written it down, for all that."

"'Tis impossible you should know that, sir, for you say you have not looked over my letter."

At the Kit-Cat Club's merry meetings he was one of the merriest. Having remarked that it was time he departed to pay his visits, and yet continued for some time longer to enjoy the "flowing bowl" and "the feast of reason"—"Really, Garth," exclaimed Steele, with mild consideration for the sick and suffering, "you should take no more wine, but hasten to see your poor devils of patients." "'Tis no great matter," rejoined the easy physician, "whether I see them to-night or not, for nine of them have such bad constitutions that all the doctors in the world can't save 'em; and the other six have such good constitutions that all the doctors in the world can't kill 'em."

On a certain Sunday he found his way into a Presbyterian Church, where he found the preacher moved to tears by the iniquities of his congregation, and the general decadence of humanity. "What makes him greet?" asked Garth of his neighbour. "Egad," said the man, "you'd greet too, if you

were in his place and had as little to say." "Come along, my dear sir, and dine with me. You are much too good a fellow to be here."

Being one day questioned by Addison upon his religious opinions, he replied, "that he was of the religion of all wise men;" and when asked to explain himself, added, "that wise men kept their own secrets."

JOHN ARMSTRONG, 1709-1779.

John Armstrong, born in 1709, was the son of the minister of Castleton, a secluded pastoral village in Roxburghshire. He was educated in the University of Edinburgh, where he studied medicine, and in 1732 took the degree of M.D. Clever young Scotchmen came to London in those days, as they come in our own, to enjoy its large opportunities of acquiring fame and fortune; and Armstrong, having both talent and perseverance, soon began to get together a small practice. His rise was checked for awhile by his publication of an erotic poem, which seemed to show that he had studied Ovid with more attention than Hippocrates; but he repented, it is to be believed, of his youthful folly, and all his after literary work was free from offence. In 1744 he published his "Art of Preserving Health," which was quickly followed by poems on "Benevolence" and "Taste." We may note that the four stanzas at the close of the first canto of Thomson's "Castle of Indolence" are also from his pen.

In 1760 Armstrong was appointed physician to the British forces in Germany, and he remained abroad until 1763, when peace was concluded. On his return to London he resumed his professional duties; but his practice was always very limited. He never made his way into the fashionable section of London society; and it may be doubted whether his friendship with Wilkes was not a disadvantage. He was

also on amicable terms with Wilkie, David Mallet, and the poet Thomson, who has drawn his portrait in "The Castle of Indolence":—

"With him was sometimes joined in silent walk—
 Profoundly silent, for they never spoke—
 One shyly still, who quite detested talk;
 Oft stung by spleen, at once away he broke
 To groves of pine, and broad, o'ershadowing oak;
 There, inly thrilled, he wandered all alone,
 And on himself his pensive fury wroke,
 Nor ever uttered word, save when first shone
 The glittering star of eve—'Thank Heaven, the day is done.'"

Armstrong died at his London residence on the 7th of September, 1779, aged seventy.

His "Art of Preserving Health" contains more of good sense, perhaps, than of genuine poetry. The rules laid down are, with few exceptions, such as would commend themselves to any man of intelligence and experience; and the principles are in general accordance with the Healing Art as it is now understood. They present the philosophy of life from a moderate point of view. It is in the occasional descriptions and episodes that the learning of the physician is supported by the skill of the accomplished versifier, and some of these, though marked by the tumidity of language of which Thomson set the example in his "Seasons," are by no means deficient in graphic force and pictorial effect.

"It would be difficult," says Mr. Saintsbury, "to find a more unsuitable subject for poetry than the art of preserving health: yet in treating it Armstrong has managed to produce many passages which lovers and students of blank verse cannot afford to disdain. His vigour is unquestionable, and his skill is by no means of an every-day order. The poem however is deformed, not merely by the unavoidable drawbacks of its subject, but by the insertion of a large mass of

unnecessary and now obsolete technicalities, which could at no time have added to its attractions, and which now make parts of it nearly unreadable. Here and there, too, we are offended by the defect which Armstrong shares with Swift and with Smollett—the tendency to indulge in merely nauseous details. On the whole, however, the merits of *The Art of Preserving Health* far outweigh its defects.”

As the poem is little known, a specimen of its style will probably not be objected to :—

“How to live happiest ? how avoid the pains,
The disappointments, and disgusts of those
Who would in pleasure all their hours employ,
The precepts here of a divine old man
I would recite.
Let nature rest : be busy for yourself,
And for your friend, be busy even in vain
Rather than tease her sated appetites.
Who never fasts no banquet e’er enjoys ;
Who never toils or watches, never sleeps.
Let nature rest : and when the taste of joy
Grows keen, indulge ; but shun satiety.
’Tis not for mortals always to be blest,
But him the least the dull or painful hours
Of life oppress, whom sober sense conducts,
And virtue, thro’ this labyrinth we tread.
Virtue and sense I mean not to disjoin ;
Virtue and sense are one : and trust me, still
A faithless heart betrays the head unsound.
Virtue (for mere good-nature is a fool)
Is sense and spirit with humanity :
’Tis sometimes angry and its frown confounds ;
’Tis even vindictive, but in vengeance just.
Knaves fain would laugh at it : some great ones dare.
But at his heart the most undaunted sou
Of fortune dreads its name and awful charms.
To noblest uses this determines wealth ;
This is the solid pomp of prosperous days ;
The peace and shelter of adversity.
And if you pant for glory, build your fame

On this foundation, which the secret shock
 Defies of envy and all-sapping Time.
 The gaudy glow of fortune only strikes
 The vulgar eye ; the suffrage of the wise,
 The praise that's worth ambition, is attained
 By sense alone and dignity of mind.
 Virtue, the strength and beauty of the soul,
 Is the best gift of Heaven : a happiness
 That even above the smiles and frowns of Fate
 Exalts great Nature's favourites ; a wealth
 That ne'er encumbers, nor can be transferred."

MARK AKENSIDE, 1721-1770.

No one, I think, will dispute the claim of Mark Akenside to a foremost place among our Literary Physicians. Whatever the defects of his "Pleasures of Imagination," it is unquestionably a fine poem, inspired by a noble motive, and aiming at a worthy object. His "Odes," though wanting in the true lyrical ring, command approval by some high poetic qualities. His "Hymn to the Naiads" is distinguished by its classical tone and artistic finish ; and the beauty, strength, and purity of his "Inscriptions" remind us of ancient statuary. But the man was superior even to his poetry. In an age of commonplaces, trivialities, indecencies, vulgarities—when Shenstone prattled in feeble verse, and Smollett rioted in coarse exuberant fiction—he had formed a lofty ideal, and steadfastly maintained his devotion to it. He mused in company with the sages and poets of antiquity, and loved to do homage at the shrines of Virtue and Honour. It has well been said that to inspire a life-long friendship in the bosom of such a man as Jeremiah Dyson, to whom he owed his tranquil leisure and happy ease of mind, implies the presence in his character of some solid worth, some genuine elevation. In his life, as in his poetry, were mingled elements of greatness.

Mark Akenside was born at Newcastle-upon-Tyne in 1721.

He was the son of a thriving Nonconformist butcher, who, recognizing his son's parts in his early boyhood, destined him for a pulpit in the denomination to which he belonged, and that he might be educated adequately for this honourable post, sent him to the University of Edinburgh, with some assistance from the Society of Dissenters. But the youth soon discovered his unfitness or his misliking for the ministerial profession; persuaded his father to repay the Society's contribution; and applied himself with honest purpose to the study of medicine. His leisure hours he had already learned to amuse with verse-making, and his "Hymn to Science," written when he was about twenty, is interesting from the light it throws on the elevation of his ideas and the purity of his ambition:—

"That last best effort of thy skill,
To form the life and rule the will,
Propitious Power! impart;
Teach me to cool my passion's fires,
Make me the judge of my desires,
The master of my heart.

"Raise me above the vulgar's breath,
Pursuit of fortune, fear of death,
And all in life that's mean;
Still true to reason be my plan,
Still let my actions speak the man,
Through every various scene."

Having passed his examinations with credit, he returned to Newcastle, and practised as a surgeon for a brief period. Thence he proceeded to Leyden, went through a three years' curriculum, and on the 16th of May, 1744, took his degree of M.D. It was at Leyden that he first made the acquaintance—an acquaintance which soon ripened into a steadfast friendship—of Jeremiah Dyson. The names of Dyson and Akenside must always be quoted as contradictory of the old theory that friendship depends upon a certain similarity of character and agreement in tastes. For never were two men

more unlike each other than this eighteenth century Damon and Pythias. Akenside was of an imaginative and ardent temperament; Dyson, cool, commonplace, practical. Akenside was subject to attacks of pride and vanity; Dyson was always modest and composed. In external circumstances the pair were not less dissimilar: Akenside was a poor and struggling medical practitioner; Dyson was an opulent official, at one time a Lord of the Treasury, and afterwards Clerk of the House of Commons. Their friendship, however, strange as it was in some of its aspects, was never interrupted and never diminished; and Dyson, who allowed the poet £300 a year during his life, acted after his death as his literary executor.

The chief weakness, by the way, that one detects in Akenside as a man was his soreness on the point of his humble birth, of which he was continually reminded by his lameness; the fall of one of his father's cleavers on his foot, when he was a boy, having crippled him for life. To this circumstance may be attributed, perhaps, the moods of irritability and impatience with which he sometimes tried, but never strained to yielding-point, the affectionate goodwill of his friend.

On his return from Leyden Akenside made an attempt to establish himself as a physician at Northampton; but found the ground there fully occupied. Having obtained a doctor's degree by mandamus from the University of Cambridge, he removed to London—was appointed a Fellow of the College of Physicians—and entered into practice at Hampstead. There, too, he was unsuccessful; and when he finally settled down in Bloomsbury Square about 1748, he does not seem to have acquired a large connection. But with the annuity he received from Dyson, and his professional earnings, he contrived to keep a carriage, and occupy a respectable rank in society. He was a physician of St. Thomas's Hospital, and an assistant-physician of Christ's Hospital; delivered, in 1755, the

Gulstonian Lectures before the College of Physicians; was also Archerian Lecturer; and wrote several medical treatises. His scholarship, his refinement, and his knowledge of his profession should have ensured him extensive patronage; but some peculiarities of manner made him unpopular with patients. A life rendered unhappy by an over-scrupulousness, and an excessive personal refinement, which were inconsistent with the nature of his daily work, was terminated by a sudden attack of putrid sore throat on the 23rd of June, 1770.

Akenside was twenty-three years old when he published his great poem, "The Pleasures of Imagination." The price he asked for the copyright was £120, a sum which almost staggered the bookseller Dodsley, but he having submitted the poem to Johnson's critical judgment, was advised to complete the purchase on the author's own terms, "for this was no niggardly writer." Its success was immediate. In the same year he attacked Pulteney (Earl of Bath) in a poetical "Epistle to Curio." His next publication was a volume of "Odes"; and in January, 1746, he engaged to contribute an essay and a review of new books once a fortnight to Dodsley's "Museum," for which he was to receive £100 a year. This engagement he did not long carry out; and the principal literary occupation of his later life was an enlargement and revision of his *magnum opus*—as signal a failure as "second thoughts" on the part of poets generally are.

Akenside was a conspicuous figure in the literary circles of London for many years. His scholarship, his refined taste, his eloquence, made him everywhere a welcome guest; though the wits found much to amuse them in his little affectations, and the ignorant sneered at his love of the art and literature of antiquity. He is supposed to have been caricatured by Smollett in the physician in "Percgrine Pickle," who entertains his friends at dinner after the manner of the ancients; but there was a solidity of capacity and erudition in Akenside which

could well defy the mockery of the satirist. His contemporaries, however, did not do him justice. The truth is, he cherished ideals which rose far above their sympathies; and in many respects was in advance of his age.

Lettsom describes him as pale, thin, a little below the average stature, and of a strumous countenance. His injured leg was lengthened by a false heel. In dress he was distinguished by his preciseness and good taste; he always wore his sword; and his white wig was invariably well-powdered. He respected himself, and insisted that others should respect him; and any want of manners on the part of the hospital students he immediately reprimanded. It is probably an exaggeration or an untruth that when he entered the ward where the worst cases were assembled he caused the stronger patients to precede him with brooms, in order to clear a path.

TOBIAS SMOLLETT, 1721-1771.

Tobias George Smollett was born in Dalquhoun House, near the village of Renton, in Dumbartonshire, in March, 1720. The day of his birth is not known, but he was baptized on the 19th. His father, a younger son of Sir James Smollett, of Bonhill, died while Tobias was a boy; and his grandfather took charge of his education. He was sent to Dumbarton School, where he wrote a poem on the hero Wallace, and afterwards to the University of Glasgow, where he studied medicine, and picked up a little Latin and less Greek. The lad was then apprenticed to a Mr. Gordon, a surgeon of Glasgow, who figures as "Potion" in his novel of "Roderick Random." His apprenticeship came to an end when he was nineteen years old; and as his grandfather had died without making any provision for him, the bold youth made his way to London, with a MS. tragedy in his pocket, which was to win him both fortune and fame.

Managers, however, were as blind to the genius of young dramatists in Smollett's day as they are said to be in our own; and "The Regicide" was curtly dismissed at each of the London theatres. Its creator was on the brink of starvation, and underwent some bitter experiences of London life, before his medical knowledge procured him an appointment as surgeon's mate on board an eighty-gun ship, in which he was present at Admiral Vernon's disastrous attack upon Carthage (1741). Readers of "Roderick Random" know with what vividness and force the story of this ill-managed expedition is narrated in its pages. He abandoned the service when in the West Indies, and resided for awhile in Jamaica, where he met the lady who afterwards became his wife. Returning to London in 1744, he entered upon the practice of his profession—a circumstance which gives him a place in this record. Few patients resorted to the needy young Scotchman, and he took up his pen to eke out a scanty livelihood. "The Tears of Scotland," a couple of satires, and an opera were produced in quick succession; and then, in 1748, at the age of twenty-seven, he published his immortal novel of "Roderick Random"—a novel, which is also an autobiography. Its popularity determined Smollett to give up physic and make literature the business of his life; and here, therefore, our present interest in him ends.

OLIVER GOLDSMITH, 1728-1774.

Brief reference must be made to Goldsmith's connection with the Healing Art. He was born at Pallas, a small village in the county of Longford, Ireland, on the 10th of November, 1728. He was the fourth of a family of eight children, his father being a poor curate, who supplemented his small stipend by cultivating a few acres of land, until, while Oliver was still a child, he was preferred to the rectory of Kilkenny

West. There Oliver was educated at the village school, and there, in the neighbourhood of Lissoy, his father's residence, he unconsciously gathered materials to be used hereafter in his poem of "The Deserted Village." The school was kept by an old soldier named Byrne, who had served as a quartermaster in Marlborough's army, and loved to fight his battles o'er again for the entertainment of any curious ear. He had also a rich store of traditions, ghost stories, and fairy lore; and probably his picturesque monologues not only kindled in his young pupil's breast the poetie fire, but stimulated the restless erratic temperament that distinguished him in later life.

A severe attack of small-pox, which permanently disfigured his face, led to his removal from school; and through the generosity of his uncle he was sent, in 1725, to Trinity College, Dublin, as a sizar. The faults of his character here came, unfortunately, to the surface; his conduct was thoughtless and irregular, though not absolutely immoral. He wanted wise and kindly guidance. Unfortunately, his tutor was a man of brutal and ungovernable temper, and on one occasion struck Goldsmith before a party of friends. In bitter resentment the young student left college, and wandered about the country for some time in a state of absolute destitution, carrying with him everywhere the memory of the disgraceful blow; until he was found by his brother Henry, who provided him with clothes, and induced him to return to Dublin. Under no circumstances would Goldsmith have become a profound or an exact scholar; but the conditions of his collegiate career were eminently unfavourable to intellectual development. Having contrived, however, to take his degree of B.A. on the 27th of February, 1749, he gladly shook the dust off his feet at a place where he had sinned and sorrowed much, returning to his family and friends at Lissoy. His father was dead, but he lingered through two idle years in the sequestered village;

then spent a year as tutor in a gentleman's family ; and next, with £50 given to him by his uncle, proceeded to Dublin to study law. Having lost the whole in a gaming-house, his forbearing and forgiving friends raised for him a second contribution, with which he went to Edinburgh, and for a year and a half studied medicine. To work for a doctor's degree he repaired to Leyden, meeting with various romantic adventures—such as shipwreck and imprisonment—on the way, respecting which, however, he himself is the only authority, when he wasted another twelvemonth in desultory pursuits ; and in February, 1755, without having taken his degree, started on a Continental tour, with no other provision, it is said, than a shirt to his back, a guinea in his pocket, and a flute in his hand. In succession he visited Louvain, Antwerp and Brussels ; then crossed into France, where food and a night's lodging he often earned by his accomplishment as a musician. In his poem of "The Traveller" occurs the following reminiscence :—

"How often have I led thy sportive choir,
With tuneless pipe beside the murmuring Loire !
Where shading elms along the margin grew,
And freshened from the wave the zephyr flew ;
And haply, though my harsh touch, falt'ring still,
But mocked all tune and marred the dancer's skill,
Yet would the village praise my wondrous power,
And dance, forgetful of the noontide hour."

This picturesque life of vagabondage seems to have had an irresistible charm for Goldsmith, who continued to saunter on through Germany and the Rhine valley, Switzerland, and Italy, pausing for awhile at Padua, in a sudden fit of conscientiousness, to take the long-talked-about degree. In 1756 he arrived in London, full of hope and ambition, though compelled at the outset to earn a scanty livelihood as assistant to a chemist in a small shop on Fish Street Hill. Through the kindness of a college-friend, Dr. Sleight, he was enabled to commence

practice as a physician in Bankside, Southwark ; but for the decorous, industrious, and laborious life of a London doctor no man was ever more thoroughly unfitted. Need we say that the attempt was a failure? After a brief experience as an usher, he presented himself at Surgeon's Hall in 1758 for examination as an hospital mate ; but was rejected as unqualified—a circumstance which suggests to us how fortunate it was for his patients that he ceased to practise as a physician ! Thenceforth his life was the life of a struggling man of letters ; and after enriching English poetry with two of its finest descriptive poems ; English fiction with one of its finest domestic stories ; English drama with two of its best comedies ; he died of mental and physical fever, on the 4th of April, 1774, at the early age of forty-six.

JAMES GRAINGER, 1721-1766.

Few particulars are known of the life of this worthy "medicine-man" and minor poet. According to his own statement, he came of a gentleman's family in Cumberland ; studied medicine in Edinburgh ; obtained a medical appointment in the army ; and when peace was concluded in 1749, settled in London. He seems to have been distinguished by amiability of manners and breadth of culture. As a physician he was scarcely successful ; but he made his way into the world of letters, and gained the friendship of Johnson, Bishop Percy, Sir Joshua Reynolds, and Shenstone. In 1755 he published his "Ode to Solitude," the best of his poetical work ; afterwards he translated the Elegies of Tibullus ; and he also contributed critical articles to the *Monthly Review*. But as fortune refused to smile upon him in London, he gave up his practice, and went out to St. Christopher's, in the West Indies ; married a rich wife whose acquaintance he had made on the voyage ; and celebrated the principal product of the island in his poem

of "The Sugar Cane," which is tolerable if we suppose it to have been written intentionally in the mock-heroic vein, but, if seriously designed, must be held to sink beneath the level of contempt. Grainger died—of the climate, or of his own poetry—in 1766.

JOHN WOLCOT, 1738-1819.

John Wolcot, the name by which he is known in the records of Medicine—"Peter Pindar," as he is called in the literature of Satire—was born in the sleepy, out-of-the-world village of Dodbrooke, in Devonshire, in the year 1738. That a native of this rural Bœotia, bred up under the eye of the parson and the squire, should develop into an antagonist of existing institutions, a reviler of things that be, was a bit of irony on the part of Circumstance, calculated to alarm and confound the minds of devout partisans of Church and State. Wolcot, when a boy, was placed under the charge of his uncle, a respectable surgeon and apothecary at Fowey, who educated him with a view to make him, first, his assistant, and, afterwards, his successor in business. As he grew in years, however, he showed a strong strain of independence in his character, and going to London to "walk the hospitals," he made the acquaintance of Sir William Trelawney, Governor of Jamaica, to which island he accompanied him as medical attendant. His ready wit and *bonhomie*, and his social habits, rendered him very popular with the Jamaica planters. But his professional duties hanging lightly upon him, and his income being insufficient for his wants, he obtained from his patron the gift of a vacant benefice in the Church, and making a hasty trip to England, actually prevailed on the Bishop of London to admit him to holy orders. He then returned to Jamaica, and took possession of his "cure of souls." His congregation consisted chiefly of negroes, whose attendances at church were few and far between, because Sunday was both their

market and their holiday. Sometimes the church was empty ; whereupon parson and clerk found their way to the seaside, and indulged in the sport of pigeon-shooting. Sir William Trelawney's death, however, put an end to all hope of further preferment, and resigning his charge in Jamaica, the reverend gentleman attended Lady Trelawney to England, and established himself as a physician at Truro. It was during his residence there that he discovered the talents of Opie, the painter. He took great pains to instruct, and form the taste, of the young artist ; and when Opie's fame had begun to grow, accompanied him to London as affording fuller and freer scope for the energies of both *protégé* and patron.

Wolcot, however, as he had given up Divinity, so now he abandoned Physic, and threw himself heartily into the profession of letters. He frankly owned that he did not like the practice of medicine as an art, and professed himself ignorant whether the patient was cured by the *vis medicatrix naturæ*, or the administration of a little pill, which was either directly or indirectly to reach the part affected. There was a rough honesty about the man which recoiled from all kinds of sham and chicane ; and no doubt in the medical practice and practitioners of the day he had seen enough to excite his contempt and even his indignation. That he placed a low estimate upon his fellow-professionals is clear enough from the ridicule he heaps upon them in his two-act farce, "Physic and Delusion ; or, Jezebel and the Doctors" :—

By God, old prig !

"Blister. Another word, and by my wig—

Bolus. Thy wig ? Great acconcheur, well said,
'Tis of more value than thy head ;
And 'mongst thy customers—poor ninnies !
Has helped thee much to bag thy guineas."

Though Wolcot's satires are not much read now, and seldom quoted, and though an undeniable coarseness hangs

about them, they are still capable of raising a hearty laugh. I do not say that the fun is not vulgar ; but, after all, it *is* fun, which is more than can be said of all our comic writing now-a-days. He does not depend upon puns and far-fetched conceits for his humour, but on the ludicrous light in which he puts the things and persons selected for ridicule. Much of his satire has lost its effect because directed to ephemeral objects ; much of it is unjust and unprincipled ; but sometimes it is levelled at falsehood, cant, and affectation, and then it is very good and telling. Take, for instance, the well-known fable of "The Pilgrims and the Peas." His attacks upon George III. are very diverting, though they expose that commonplace monarch's foibles with merciless force. As a political satirist he was as unscrupulous as he was formidable.

Dr. Wolcot died at his house in Somers' Town on the 14th of January, 1819, and was buried in the churchyard of St. Paul's, Covent Garden.

DR. ERASMUS DARWIN, 1731-1802.

Erasmus Darwin has a twofold claim on the respect of scientific men : as the father of Charles Darwin, and as having himself suggested that theory of Evolution which his illustrious son worked out to such beautiful and astonishing results.

He was born at Elston, near Newark, in 1731. After passing with distinction through the usual University course at Cambridge, he applied himself to the study of medicine, and took his degree of M.B. at Edinburgh in 1753. It was in Nottingham that he first sought for patients ; but want of success soon induced him to remove to Lichfield, and there he speedily rose into high repute, gradually acquiring a very comfortable fortune. He was then in a position to gratify his two strongest tastes—a love of rhyming and a passion for botanical study. The latter was gratified by the formation of an exten-

sive botanical garden ; the former by the production of several ingenious poems, which, if deficient in the higher qualities of poetry, are nevertheless characterized by fertility of invention, pomp of rhetoric, and fluency of versification. These are—*The Botanic Garden*, in which the Linnean system of botany is mixed up with the machinery of Rosicrucianism ; *The Loves of the Plants* ; *The Economy of Vegetation* ; and *The Temple of Nature*. He was also the author of a curious and interesting physiological treatise, *Zoonomia, or The Laws of Organic Life*, in almost every page of which one sees the reflex of an active, inquiring, and suggestive intellect. The two Darwins afford a remarkable illustration of the theory of the hereditary transmission of genius ; for though Charles Darwin was of soberer judgment than his father, with a keener faculty of observation and analysis, he certainly inherited from him some very marked characteristics of mind.

JOHN MOORE, 1729–1802.

A contemporary of Darwin, who, like him, merits our recognition both on account of his own work and his son's fame, is Dr. John Moore, the author of "Zeluco," a clever and entertaining novel, and the father of Sir John Moore, "the hero of Coruña." He was born at Stirling in 1729. His father, a Presbyterian minister, died in 1737, leaving seven children to the care of his widow, who removed to Glasgow, sent her son John to the University, and then apprenticed him to Mr. Gordon, a local practitioner of celebrity, under whom Smollett, a few years before, had studied. Young Moore, while yet in his teens, accompanied the Duke of Argyll's regiment abroad, and attended the military hospital at Maestricht with the rank of surgeon's mate. He had afterwards considerable experience at Flushing and Breda. On his return to England, Mr. Gordon invited him to share his practice in Glasgow,

where for nearly twenty years he enjoyed an exceptional degree of professional success. In 1772 he attended the young Duke of Hamilton on the Continent, and for five years travelled through France, Switzerland, Germany, and Italy. In 1778 he removed with his family to London, and in the following year published his "View of Society and Manners in France, Switzerland, and Germany"—a work of peculiar interest, embodying the observations of a keen and practised inquirer. "Medical Sketches" appeared in 1785, and his novel of "Zeluco" in 1786. "Zeluco" was the first English novel which dealt with foreign scenes and manners, and is so full of picturesque incident and careful sketches of character, and enlivened by so pawky a humour, that it ought not to be forgotten. In 1795 Moore published his thoughtful "View of the Causes and Progress of the French Revolution." His two later novels, "Edward" and "Mordaunt," are very far inferior to "Zeluco."

Dr. Moore died at Richmond on the 21st of January, 1802. The reader who wishes for fuller information respecting this accomplished and able writer—who, we may add, warmly befriended Burns—may turn to the Memoir, by Robert Anderson, 1820, or to "Mooriana," by Prevost and Blagden, 1803.

We must dismiss in a paragraph, Dr. John Aikin (1747-1822), the brother of Mrs. Barbauld, author of a book of Medical Biography, of "Memoirs of Selden and Archbishop Usher," of "Annals of the Reign of George III.," and several other industrious compilations, but better known for his share in "Evenings at Home;" Dr. John Ferriar (1764-1815), author of "Medical Histories and Reflections," whose "Illustrations of Sterne" revealed the great humourist's obligations to old Richard Burton's "Anatomy of Melancholy;" and Dr. John Ayrton Paris (1785-1856), author of a very useful

"Treatise on Diet," "Pharmacologia: an Inquiry into the Operation of Medical Bodies," "Philosophy in Sport made Science in Earnest"—a really charming book, which has passed through many editions—and a valuable "Life of Sir Humphrey Davy." A "Memoir of his Life and Writings" was published by Dr. Munck in 1857.

GEORGE CRABBE, 1754-1832.

We have noted several instances in the preceding pages of the clergyman, or intended clergyman, turning physician; but in Crabbe's case the wheel revolved in the opposite direction, and the physician turned pastor—and poet.

A word or two on Crabbe the poet.

Like Burns, he was a poet of the poor. Byron has described him, with more point than truth, as "Nature's sternest painter, yet the best." In Crabbe, however, there is no sternness, though a good deal of seriousness; there is unhesitating truth and rare dramatic power; consequently, as the scenes he describes are mostly scenes of tragic suffering, there is much pain; but he is never wanting in sympathy, a profoundly tender sympathy. He feels most deeply when he speaks most plainly. If the possession of imagination, fancy, and the lyrical gift of music, be indispensable to the poet, Crabbe cannot claim that glorious title; for his poems are really tales in verse—rhymed narratives, energetic in expression and exact in versification, but without rareness of melody, subtleness of modulation, or delicacy of imagery. But he may claim kinship with the poets by right of his loving and minute observation of nature. It has been well said of him that he paints the very blades of grass on the common and the trail of the shell-fish on the sand. He carried this microscopic accuracy into his observation of mankind, and the practice prevented him from grasping a large

and generous view of humanity, just as it prevented him from taking in a wide sweep of landscape. It is said that he once rode sixty miles in twenty-four hours to catch a glimpse of the sea; but he puts into his pictures, not the wide, rolling waters, but the shore, with its tangled weeds and sandy hummocks.

Crabbe was born on Christmas Eve, 1754, in the sleepy old town of Aldborough, in Suffolk, where his father was salt-master, or collector of the salt duties. Like so many lads of good parts, he began by educating himself; until his father, observing his fondness for books, decided that he should be trained for the medical profession, and after sending him to school for a year or two, apprenticed him, at the age of fourteen, to a doctor near Bury St. Edmunds. There he remained for three years, and then was transferred to a practitioner of better position, a Mr. Page, of Woodbridge. When the tale of his 'prenticeship was told, he endeavoured to raise funds to carry him to London, and maintain him while he "walked the hospitals"; but, failing in this, he returned to Aldborough, put a few bottles into a shop window, with a small collection of drugs on the shelves, and started as apothecary. Poverty stared him in the face, and after struggling with it for nearly two years, he made his way to London, resolved to cultivate literature (as Sydney Smith phrased it) on a little oatmeal. He took with him a volume of MS. poetry, which he contrived to get published, but the publisher failed, and the poet was left penniless. Reduced to indigence, he applied for help to Lord North, Lord Shelburne, and Lord Thurlow in succession. But in vain; and the fate of Chatterton was looming before him, when a touching and manly letter to Edmund Burke procured him a generous patron, who looked into his compositions, and carried one of them, "The Library," to Dodsley the publisher, whom he induced to publish it upon favourable terms.

Acting on Burke's advice, he bade farewell to Hippocrates and Galen, took holy orders, and became domestic chaplain to the Duke of Rutland. In 1783, Lord Thurlow, who told him "he was as like Parson Adams as twelve to the dozen," gave him a couple of small livings in Dorsetshire, transferring him, six years later, to those of Muston and Allington, in the Vale of Belvoir. Meanwhile, he had married well and happily, and his cup of prosperity was filled to the brim, when he was preferred to the rectory of Trowbridge, in Wiltshire, where he closed his tranquil and uneventful life in February, 1832.

Reminiscences of his connection with medicine occur in his poems, as in the following description of the village practitioner:—

"Anon a figure enters, quaintly neat,
 All pride and business, bustle and conceit . . .
 He bids the gazing throng around him fly,
 And carries fate and physic in his eye;
 A potent quack, long versed in human ills,
 Who first insults the victim whom he kills;
 Whose murderous hand a drowsy bench protect,
 And whose most tender mercy is neglect.
 Paid by the parish for attendance here,
 He wears contempt upon his sapient sneer;
 In haste he seeks the bed where misery lies,
 Impatience marked in his averted eyes;
 And, some habitual queries hurried o'er,
 Without reply, he rushes on the door;
 His drooping patient, long inured to pain,
 And long unheeded, knows remonstrance vain;
 He ceases now the feeble help to crave
 Of man; and silent sinks into the grave."

JOHN MASON GOOD, 1764-1827.

John Mason Good, the son of a Nonconformist minister, was born at Epping, in Essex, in 1764. After receiving a

careful education of the usual order, he was apprenticed to a general practitioner at Gosport, and in 1783 went to London, where he attended Guy's Hospital, and obtained an extensive acquaintance with the principal branches of his profession, for he combined natural intelligence and quick perception with an exceptional faculty of patient application. In 1796 he became a member of the College of Surgeons, and began to practise in London. He developed at the same time strong literary tastes, which he cultivated with industry and judgment—acquiring a reputation which, in 1820, justified him in relinquishing general practice, and, having taken the degree of M.D. at Aberdeen, and become, in 1822, a licentiate of the College of Physicians, in confining himself to the duties of a consulting physician. He died in 1827, after a long and painful illness.

This is a rapid outline of a very useful and honourable life—the life of a man of respectable capacity, who, in the intervals of professional labour, was always busy at the work of mental improvement; who supplied the defects of his early education by his methodical diligence; and gained so thorough an acquaintance with Latin that he produced an excellent translation of Lucretius in blank verse. He was a man of deep religious feeling; and his “Occasional Thoughts on Select Texts of Scripture” have passed through many editions.

His principal contributions to the literature of his own profession are—“A Physiological System of Nosology,” published in 1817, which must now be regarded as obsolete; and “The Study of Medicine,” 1822. The object of the latter is stated by its author thus:—“To unite the different branches of medical science—which, when carried to any considerable extent, have hitherto, by most writers, been treated of separately—into a general system, so that the whole may be contemplated under a single view, and pursued under a common

study. These branches are the following:—I. Physiology, or the doctrine of the natural action of the living principle. II. Pathology, or the doctrine of its morbid action. III. Nosology, or the doctrine of the classification of diseases. IV. Therapeutics, or the doctrine of their treatment and cure.” Though to a great extent superseded by later and superior authorities, “The Study of Medicine” was eminently creditable to the talent, scholarship, and industry of its author, and may still be read with some degree of profit.

SIR JAMES MACKINTOSH, 1765-1832.

Sir James Mackintosh, who has made his mark in our literature as historian, critic, essayist, and metaphysician, was in early life intended for the medical profession. He was born at Alderine House, on the banks of Loch Ness, on the 24th of October, 1765. In his boyhood he developed that passion for reading which remained with him throughout his life; and though all his kinsmen were Jacobites, his studies made him a staunch Whig in his youth, and he continued a staunch Whig until his death. He was educated at the University of Aberdeen; and afterwards went to Edinburgh to study medicine. But in 1788, when, at the age of twenty-three, he removed to London, he abandoned his medical studies, and devoted all his energy and activity to the law. As a barrister, his most notable achievement was the defence of Peltier, a royalist *émigré* of France, who had been indicted for a libel on Napoleon, then First Consul. He was afterwards knighted and appointed Recorder of Bombay in 1804; he returned to England; entered Parliament; and in 1830 was appointed a Commissioner for the Affairs of India. He died on the 30th of May, 1832.

RICHARD ROBERT MADDEN, 1798-1886.

Richard Robert Madden was born in Dublin in 1798, and educated there for the medical profession; but removing to London, he obtained a position in the Civil Service, and was employed by Government on several important commissions, taking an active part in the various movements connected with the suppression of slavery and the extirpation of the slave trade. He was a voluminous author, chiefly of travels and biographical and historical works, such as "The Lives and Times of the United Irishmen," "The Turkish Empire," "Shrines and Sepulchres of the Old and New World," "Life and Martyrdom of Savonarola," and "Memoirs and Correspondence of the Countess of Blessington." In connection with his professional studies the only book of his which we can recall is "Phantasmata, or Illusions and Fanaticisms of an Epidemic Character," which will not bear comparison with Hecker's elaborate work.

JOHN BROWN, 1810-1882.

John Brown, whose name as the author of that most charming story, "Rab and His Friends"—so delightful in its rare combination of fancy, humour and pathos—is familiar in almost every English household, was born at Biggar, in Lanarkshire, in September, 1810. He was educated at the High School of Edinburgh, which has turned out so many distinguished men, and afterwards at the University, where he took his M.D. degree. He was afterward admitted as a Fellow of the Edinburgh College of Physicians, and settling in the Scottish capital, soon acquired an extensive professional connection. Dr. Brown has always been a warm advocate of general culture on the part of the physician, and has deprecated that mania for specialism and that exclusive devotion to

professional studies which tend to narrow a man's views and restrict his sympathies. He speaks with enthusiastic approval of "the old manly, intellectual, and literary culture of the days of Sydenham, Arbuthnot, and Gregory; when a physician fed, enlarged, and quickened his entire nature: when he lived in the world of letters as a freeholder, and revered the ancients, while at the same time he pushed on among his fellows, and lived in the present, believing that his profession and his patients need not suffer, though his *horæ subsecivæ* were devoted occasionally to miscellaneous thinking and reading." He has supported his precepts by example, contributing frequently to various periodicals. His chief essays and papers have been collected under the title of "*Horæ Subsecivæ*"; and it will be difficult to find elsewhere, within the same limited compass, so much genial sagacity, humorous shrewdness, and knowledge of men and manners.

Among the contents of this admirable little volume we find an appreciative memoir of Dr. George Wilson, whom we may, perhaps, be allowed to include among our Literary Physicians, though the department of Chemistry was that which he chiefly affected.

GEORGE WILSON, 1818-1859.

He was born in Edinburgh on the 21st of February, 1818. Educated at the High School, he left it when fifteen years old, and with all the energy of his nature applied himself to the study of medicine—his intellectual ardour triumphing over a weakness of constitution which had already displayed itself. "I don't think I shall live long," he said, when he was seventeen; "my mind will and must work itself out, and the body will soon follow it." After some practice in the laboratory of Dr. Graham, he took the degree of M.D., but never assumed the responsibilities of a general practitioner. He appealed for

support as a lecturer on chemistry ; and the freshness of his style and the originality of his method speedily drew around him a large and increasing circle of students. In one of his vacations his irrepressible activity urged him to undertake a twenty-four mile walk in the Perthshire Highlands, but meeting with an injury to his foot, he returned to Edinburgh seriously ill. An abscess formed, and the result was an affection of the ankle joint, which rendered necessary partial amputation of the foot. He continued, however, his public lectures and private studies. There was a fiery spirit in the man which could not be quenched ; a tenacity of purpose which would not relax its hold. Rheumatism and inflammation of the eye came on, and had to be treated by the administration of colchicum, cupping, and blistering. In pain and torture both day and night, he could obtain snatches of sleep only under the influence of morphia. His condition was aggravated by symptoms of pulmonary disease ; but he still persevered with his weekly lectures. Returning home from these, he would exclaim, " Well, there's another nail put into my coffin ; " but he had pledged himself to the public, and nothing could divert him from what he conceived to be the path of duty.

With his body tortured by setons and blisters, he persevered each day with his daily work ; and knowing that the end was near, faced its approach with the composure and calmness of a devout mind. No weak complaint or cry of suffering was heard, even when the intense weakness caused by frequent hæmorrhages compelled him to desist for awhile from the pursuits he loved ; but, after a brief rest, he returned to them with fresh ardour, exclaiming blithely, " The water is rising in the well again." " How nobly, how sweetly, how cheerily," says Dr. John Brown, " he bore all those long baffling years ; how his bright, active, ardent, unsparing soul lorded it over his frail but willing body, making it do more than seemed possible, and, as it were, by sheer force of will ordering it

to live longer than was in it to do, those who lived with him and witnessed this triumph of spirit over matter will not soon forget. It was a lesson to every one of what true goodness of nature, elevated and cheered by the highest and happiest of all motives, can make a man endure, achieve, and enjoy."

In 1855 he was appointed to the Professorship of Technology and the Curatorship of the Edinburgh Industrial Museum. The first was a new creation, and its duties were undefined, almost undefinable; Wilson, however, made them for himself, collecting specimens and models, elaborating details, lecturing incessantly. But so much as had remained of his physical strength showed symptoms of rapid exhaustion. He suffered from continual weariness; to write a letter required a special effort of the jaded nature. The days were rendered gloomy by pain, and the nights exhausting by sleeplessness. Still persevering in his contest with his weaker self, he wrote his attractive book on the Senses, entitled "*The Five Gateways of Knowledge*," which has justly been described as "a prose poem or hymn of the finest utterance and fancy—the white light of science diffracted through the crystalline prism of his mind into the coloured glories of the spectrum; truth dressed in the iridescent hues of the rainbow, and not the less but all the more true." He resumed his lectures, and began the life of a kindred spirit, Professor Edward Forbes. Though his vitality was sapped by repeated attacks of bleeding from the lungs, he could not be persuaded to lay aside his armour. "The word *Duty*," he wrote, "seems to me the biggest word in the world, and is uppermost in all my serious doings." At last, one day, he returned from his lecture-room with an excruciating pain in his side, so that he could scarcely crawl upstairs to his bedroom. The physicians, on examining him, declared the cause to be pleuro-pneumonia. It is needless to say that he had no reserve of force with which to oppose so

formidable a disease, and he passed away into his rest on the 22nd of November, 1859.

"To George Wilson," says Dr. John Brown, "to all such men—and this is the great lesson of his life—the heavens are for ever telling His glory, the firmament is for ever showing forth His handiwork; day unto day, every day, is for ever uttering speech; and night unto night is showing knowledge concerning Him. When he considered these heavens as he lay awake, weary and in pain, they were to him the work of His fingers. The moon, walking in brightness, and lying in white glory on His bed—the stars—were of Him ordained. He was a singularly happy and happy-making man. No one since his boyhood could have suffered more from pain and languor, and the misery of an unablo body. Yet he was not only cheerful, he was gay, full of all sorts of fun—genuine fun—and his jokes and queer turns of thought and word were often worthy of Cowper or Charles Lamb. Being, from his state of health and knowledge of medicine, necessarily 'mindful of death,' having the possibility of his dying any day or any hour always before him, and that 'undiscovered country' lying full in his view, he must, taking as he did the right notion of the nature of things, have had a peculiar intensity of pleasure in the everyday beauties of the world."

OLIVER WENDELL HOLMES, *b.* 1809.

English blood flows in his veins, for on the father's side he is a descendant of an old Puritan family, and, therefore, among our Literary Physicians, we may give a place to Oliver Wendell Holmes: to the "Autocrat of the Breakfast Table," whose poetry, and still more, his prose, so fresh in its breezy vigour, so manly in its sincerity, so genial in its humour, so refined in its fancy, so healthy in its tone, helps

to glorify American literature (which is also *our* literature) as with a golden light. He was born at Cambridge, Massachusetts, in 1809. His father, who came of English lineage, was a clergyman, an antiquary, and a scholar; through his mother his ancestors were Dutch. His early education he received at Cambridge Port School, where Margaret Fuller was one of his fellow-pupils. He began his academic career at Harvard in 1825, pursuing it with a good deal of distinction, not only for his fine scholarship, but also for the readiness of his pen in comic and satiric rhymes. Then came the great question of the calling to be adopted by a very clever and independent young man, with a large share of wit and animal spirits. He tried the law for a twelvemonth, but it would not do; and he then turned to the medical profession, proceeding to Europe that he might study in the best schools. At Paris he had the good fortune to be taught by Larrey, Napolcon's favourite surgeon, and by Louis. Returning to the United States, after a three years' absence, he settled down in Boston, and devoted himself to his two-fold vocation of physician and man of letters. No doubt, as Professor of Anatomy at Harvard, from 1847 to 1882, he was of great use to his fellows in a comparatively limited sphere; but it is as the poet and the essayist and the kindly humorist that he has earned the gratitude of his contemporaries "all the world over," and will long be held in remembrance by posterity. Those brilliant papers which bear the general titles of "The Autocrat," "The Poet," and "The Professor at the Breakfast Table" will keep his memory green. Among their felicitous thoughts and quaint epigrams shine gleams of warm feeling and sparks of brilliant fancy. His humour is kindly, sympathetic, spontaneous; it has an undercurrent of earnestness; something of that seriousness which shoots across the mirth of the great English masters, like the occasional cloud on a summer day which reveals the possibility of storm and sorrow.

CHAPTER IV.

HERBS AND SIMPLES—THE PEOPLE'S PHARMACOPŒIA.

FOR several centuries the chief part of the apothecary's stock-in-trade was obtained from the hedgerows and the banks of streams, marshes, meadows, and woodland glades. His medicines were mainly compounded from "herbs and simples." While a few were imported from foreign countries, the larger portion lay close to his hand, in the rural lanes that then traversed the face of the country, or in the leafy nooks and recesses which were everywhere so plentiful. In the villages his place was generally filled by a so-called "wise woman"—with a suspicion of witchcraft, or, at least, of uncanniness, clinging to her—who concocted all kinds of potions and infusions from the plants of the field which then formed the people's pharmacopœia. These were not always of an innocent kind—love-philtres, the effects of which were sometimes disastrous to the fools who swallowed them; sleeping-draughts, which induced the sleep that has no waking. But the plants mostly relied upon had no such dangerous properties, and to this day are in use among the few herbalists or herb-doctors who obtain a scanty livelihood in obscure corners of our cities, and the gossips who still, in some of our villages, boast of their remedies for wounds and bruises, rheumatism, and other bucolic ills.

At the plants which for these purposes were held in highest esteem by our forefathers, we propose to take a rapid glance, indicating their relations, real or supposed, to the Healing Art.

The first that occurs to us is the Rue, Shakespeare's rue, which Perdita in her dainty nosegay associates with rosemary :—

“For you there's rosemary and rue : these keep
Seeming and savour all the winter long.”

Ophelia offers it to Hamlet's mother :—“There's rue for you ; and here's some for me :—we may well call it herb-grace o' Sundays : oh, you must wear your rue with a difference.” In the garden scene of that most pathetic of tragedies, *Richard II.*, the gardener selects it as a memorial of Richard's unfortunate Queen :—

“Here did she fall a tear : here in this place
I'll set a bank of rue, some herb of grace :
Rue, even for ruth, here shortly shall be seen,
In the remembrance of a weeping queen.”

Bishop Jeremy Taylor reminds us that it was used by the Romish priests in exorcising evil spirits :—“First, they are to try the devil,” he says, “by holy water, incense, sulphur, rue, which from thence, as we suppose, came to be called ‘herb of grace.’” And in Greene's “Quip for an Upstart Courtier,” you may read :—“Some of them smiled and said, *Rue* was called *Herbgrace*, which, though they scorned in their youth, they might wear in their age, and it was never too late to say *Miserere*.”

The Common Rue (*Ruta graveolens*) is not a native of Britain, but of the lands which border on the Mediterranean. Of old, however, it was largely cultivated in our English gardens. The ancients esteemed it highly ; and so far back as the time of Aristotle it was worn around the neck as an amulet against witchcraft. It is the *Πηγανον* of Hippocrates.

Rue and wormword held a high place in popular favour as

preventives against the plague. Alleyne, the Elizabethan actor, writing to his wife, desires her, when the pestilence was raging, to put "good store of these plants" in her window. Rue is still employed in medicine as a strong stimulant. Its leaves possess an acrid property, blistering the skin if much handled, and in large doses acting as a powerful narcotic. Syrup of rue is esteemed a good stomachic for children. The infusion was considered an excellent thing in fevers.

On the 29th of July, 1760, some evil-disposed person spread a report in London that the plague had broken out in St. Thomas's Hospital; and though the report was quickly contradicted by the hospital authorities, it had created such a demand for rue and wormwood that their price, in Covent Garden Market, rose in a few hours forty per cent.

"Rosemary, that's for remembrance," sighs Ophelia. A decoction of it was supposed to strengthen the memory, if regularly imbibed; hence it came to be adopted as a symbol of remembrance. So in Drayton's Ninth Eclogue:—

"He from his lass him lavender hath sent,
Sharing her love, and doth requital crave;
Him rosemary his sweetheart, whose intent
Is that he her should in remembrance have."

It figured, therefore, as an appropriate decoration at both weddings and funerals. In Yorkshire the rustics still carry sprigs of it to funerals, and throw them into the grave. A strange belief once held its sway in remote rural places that where the rosemary flourishes in the garden the wife reigns supreme in the house; but where it pines and dwindles, then the husband is master.

Rosemary was conspicuous in the Christmas decorations of the olden time. A quaint old writer speaks of "churches and houses" as "decked with bayes and rosemary, holly and ivy,

and other plants which are always green." It was included also among the evergreen honours of "the boar's head," when it was served up at the festive board:—

"Sweet rosemary and bays around it spread."

Its botanical name, *Rosmarinus*, means "sea-dew," and it is said to be "useful in love-making," for a very fanciful reason:—Both Venus, the Goddess of Beauty, and Rosemary, or "Sea-Dew," sprang from the bosom of ocean, and as Love is Beauty's son, it is obvious that Rosemary must be close akin to him. Says Butler, in his *Hudibras*:—

"The sea his mother Venns eame on;
And hence some reverend men approve
Of rosemary in making love."

Oil of Rosemary and Spirit of Rosemary still find a place in the Pharmacopœia. The former is the principal ingredient in the well-known Hungary or Queen of Hungary's Water:* so called because the recipe was given to a certain Queen of Hungary by a hermit. It was thought a sovereign remedy for the nerves. Rosemary was once credited as possessing the power of improving the memory and strengthening the mental faculties. Its various virtues are summed up by Dr. Roger Hacket, in his sermon of "A Marriage Present" (1607):—"It overtoppeth all the flowers in the garden, boasting man's rule. It helpeth the brain, strengtheneth the memorie, and is very medicineable for the head. Another property of the rosemary is, it affects the heart. Let this *rosmarinus*, this flower of men, ensign of your wisdom, love, and loyaltie, be carried, not only in your hands, but in your hearts and heads."

* The recipe is given by Sir John Hill:—"Put two lbs. of the flowery tops into a common still, with two gallons of molasses spirit, and distil off one gallon and a pint."

Beautiful is the country in the flush of early Spring. With an April sun shining in a clear blue sky, flecked occasionally by clouds of fleecy white, the young green foliage takes on a glory of its own, and the hedge rows and the woodlands are fair to look upon. The golden clusters of the gorse make bright the waste places and the wayside banks; the sweet breath of the violets rises fragrantly from many a sequestered nook; the pale loveliness of the primrose is visible in lea and coppice; and the wood-anemone bends its graceful head to the breeze. The old herbalists, in this sweet season of the year, had no difficulty in filling their wallets with the materials of their powders and potions. Thus, the wood-anemone they gathered as soon as it unfolded its petals, uttering at the same time these words of power:—"I gather thee as a remedy against *all disease*"—an universal therapeutic, like Holloway's Pills or Eno's Fruit Salt!

The Crowfoot, which also visits us with the Spring, belongs, like the Anemone, to the family of the Ranunculaceæ. Gerarde says of it—I mean of the family:—"There be divers sorts or kinds of these pernicious herbs comprehended under the name of Ranunculus or Crowfoot, whereof most are very dangerous to be taken into the body. The chiefest virtue is in the root, which, being stamped with salt, is good for those that have a plague sore, if it be presently tied to the leg, by means whereof the poison and malignity of the disease is drawn off from the inward parts, for it presently raiseth a blister to what part soever of the body it be applied. Apuleius saith further, that if it be hanged in a lincn cloth about the neck of him that is lunatic, in the wane of the moon, when the sign shall be in the first degree of Taurus or Scorpio, that he shall forthwith be cured."

The Acrid Crowfoot was so named by Linnæus on account of its strong vesicatory properties. Cattle generally refuse it, but if they eat it, their mouths are affected as if by a blister.

We are told that the wayfarer, lying down to sleep "in green pastures" with a handful of its flowers beside him, will, on awaking, find the skin of his face quite painfully irritated.

The common Buttercup, which contributes so greatly to the bright aspect of our fields, is a species of *Ranunculus*. Its round root procured for it in days gone by the name of St. Anthony's turnip, though St. Anthony can never have partaken of it without disagreeable consequences; for when raw it acts as an emetic, and even when boiled, is decidedly innutritious. All the Crowfoot species have the power of raising blisters upon the skin, and may be made serviceable in cases of inflammation, as a substitute for cantharides. "It is a wonder they are not more used for this purpose," says Sir John Hill; "but we are at present so fond of foreign medicines that these things are not minded."

To the same family belongs the Lesser Celandine—Wordsworth's

"Prophet of delight and mirth,
Scorned and slighted upon earth."

Its leaves were used by cottagers as a pot-herb, and its small tubers reputed to be a cure for hæmorrhoids. It is frequently called *Pilewort*.

Another of the *Ranunculaceæ*, the Hellebore, was well known to the old apothecaries. Long before the Christian era it was used by Melampus in the treatment of cases of insanity, and it is still considered useful in mania, melancholia, and epilepsy, in dropsy, in chronic skin diseases, and as an anthelmintic and emmenagogue. In a large dose it becomes a deadly poison. The Hellebore of the ancients was probably the *Helleborus officinalis*. As this plant was very plentiful in the neighbourhood of Anticyra, the saying arose that hypochondriacal persons should go to Anticyra.

Black Hellebore is the Christmas Rose, which, with its beautiful snow-white flowers, is so welcome in our gardens during the dark leafless winter days.

In the familiar pages of our Shakespeare, we find Henry IV. addressing words of wise counsel to his son, Prince Thomas of Clarence :—

“Learn this, Thomas,
And thou shalt prove a shelter to thy friends ;
A hoop of gold to bind thy brothers in,
That the united vessel of their blood,
Mingled with venom of suggestion—
As, force perforce, the age will pour it in—
Shall never leak, though it do work as strong
As *aconitum*, or rash gunpowder.”

Aconitum, or Aconite (*Aconitus Napellus*), also known as Monk's Hood, from the peculiar shape of its blue flowers, and Wolf's Bane, from its poisonous properties, makes a considerable show in the gardens. Its root—and as much may be said of the whole plant—is exceedingly poisonous : it contains an alkaloid (Aconite or Aconitine), which is of extraordinary virulence ; but an extract from the leaves is a valuable medicine in nervous disorders, and is much affected by homœopathic practitioners. The deadly *bikh* poison of India is prepared from the roots of several species of this plant.

Turning to the Papaveraceæ, we must give our special attention to the White Poppy (*Papaver somniferum*), which, as the source of opium, and, through opium, of laudanum and morphia, the two great pain-destroyers, is of such measureless value to afflicted humanity. Leigh Hunt represents these plants as singing—

“We are slumbering Poppies,
Born of Lethe hours”—

and Lethe hours of rest and ease they have brought, God be thanked, to the poor weary wretch tossing on his couch of pain—though, unhappily, the “mind distraught” sometimes employs it for a deadly purpose.

Opium is the dried juice of the unripe capsules of the White Poppy, which is largely cultivated in Northern India and in the plains of Bengal—where, according to Dr. Hooker, the poppy-fields resemble green lakes studded with white water-lilies; also in the Asiatic provinces of Turkey, in Egypt, and in Persia.

The constituents of opium employed by contemporary practitioners are *Codeia*, which, however, is not very frequently prescribed, and *Morphia*, which they administer in various forms. Its influence upon the digestive and respiratory systems is succinctly described by Dr. Pereira. “Under proper regulations,” he says, “it is admissible—to diminish excessive hunger; to allay pain, when unaccompanied by inflammation; to diminish the sensibility of the digestive organs in cases of acrid poisoning, and in the passage of biliary calculi; to produce a relaxation of the muscular fibres of the alimentary canal in colic, and of the gall-ducts in the passage of calculi, and to diminish excessive secretion from the intestinal canal in diarrhoea.” Further, it may be useful, “to diminish the contractility of the muscles of respiration, or of the muscular fibres of the air-tubes, as in spasmodic asthma; to diminish the sensibility of the bronchia in the second stage of catarrh, and thereby to allay cough by lessening the influence of the cold air; and, lastly, to counteract excessive bronchial secretion.” But in all affections of the nervous system opium is beneficial. It is, in fact, one of the most valuable of the remedies which compose our *materia medica*, and the one for which, as yet, no trustworthy substitute has been found.

“I would rather see thyme and roses, marjoram and July-

flowers," says Bishop Jeremy Taylor, "that are fair and sweet and medicinal, than the prettiest tulips that are good for nothing." So say we; and heartily do we rejoice to see the old-fashioned flowers regaining their former place in the affections of the English people. The good Bishop's "July-flowers" are identical with the Clove-Pink or Clove-Gilliflower (*Dianthus caryophyllus*), which most botanists look upon as the original of the Garden Pink and the Carnation. The Latin generic name, *Dianthus*, or "Gift of God," is a proof of the high estimation in which the members of this lovely floral family were anciently held.

A quaint old name for the Pink was Sops-in-wine, because our ancestors flavoured their wine-cups with its aromatic petals, just as they used rosemary to flavour their flagons of ale. In his "Shepherd's Calendar," Spenser says:—

"Bring hither the pink and purple columbine,
With gillyflowers;
Bring sweet carnati'ons and sops-in-wine,
Worn of paramours."

The old name for the large group of sweet-savoured flowers known as Pinks, Carnations, and Sweet Williams, was *Gillover*, *Gillyvor*, or *Gillyflower*, perhaps from the French *girofle* (a corruption of the Latin *caryophyllum*). They were also called *Stocks*, from being kept both summer and winter. In his "Garden of All Sorts of Pleasant Flowers" (1629), Parkinson says that "Carnations and Gilliflowers be the chiefest flowers of account in all our English gardens." He calls them "the queen of delight and of flowers." Gerarde, describing the Carnation (also called "coronation"), says:—"On the top of the stalk do grow very fine flowers, of an excellent sweet smell, and pleasant carnation colour, whereof it took its name."

To the same order belongs the numerous tribe of the

Chickweeds; some of which, and particularly the Stitchwort, with its pearly star-like blossoms, are pleasant ornaments of our hedgerows and wooded borders in the sweet spring-time. All of them have long slender leaves, and white flowers, radiated like a star, but carrying five petals. The common Chickweed (*Stellaria media*), which was esteemed excellent of yore as a salve for wounds, is in some parts of the country boiled and eaten as a vegetable. The juice is said to be a prophylactic for scurvy. It was his observation of this species which led Linnæus to the discovery of "the sleep of plants." Being exceedingly sensitive to atmospheric influences, they contract their leaves towards evening, so as to enfold and protect their buds. They act in a similar manner before rain, and in bad weather remain closed for hours.

A notable wild plant of this order is the Soapwort (*Saponaria officinalis*), which boasts a fine full cluster of rosy blossoms, larger and grouped together more closely than those of the Sweet William, to the leaves of which, however, its leaves bear a striking resemblance. Its juice is one of those not uncommon vegetable substances which, by making a lather with water, becomes a convenient substitute for soap. It is found more generally in the neighbourhood of villages than in any other situation, as if Providence had specially placed it there for the cottager's convenience; yet from ignorance of its properties it is little used. Were these fully understood, surely some effort would be made to cultivate it more largely for household purposes. It needs only the addition of ashes to make a good soap for cleansing linen. A decoction of the root was said to promote perspiration.

It is by no means easy to determine, with respect to some of our old-world flowers and plants, whether the herb-doctors were attracted to them by the legends and traditions surrounding them, or whether the legends and traditions grew out of the knowledge of their medicinal usefulness. Their names

do not help us to a decision; as in some cases they are based upon their supposed curative value, in others are derived from their superstitious associations. That they held a prominent place in the imagination of our forefathers we know from various circumstances; they were, indeed, invested with quite a sacred and solemn character. In the old age of chivalry, before a combat *à outrance* took place, the contending knights made solemn oath that they had "no stone of virtue, nor herb of virtue, nor charm, nor experiment, nor none other enchantment." Among these "herbs of virtue" must be specially noticed the St. John's Wort, or *Hypericum*—known as "the perforated," from the minute dots which cover not only the corolla but the foliage. A characteristic to which the poet alludes:—

"Hypericum was there, the herb of war,
Pierced through with wounds and marked with many a scar."

On the sympathetic principle, so much valued by the early physicians, the plant, in virtue of these wounds, was used as a vulnerary. Hence its popular names, "the herb of war," and "the balm of the warrior's wound." It was also employed both internally and externally as an astringent.

There was an old superstition that, if plucked on St. John Baptist's day, it became endowed with magical properties. On the vigil of the Saint, when the village bonfire was kindled, our young men and maidens, their brows bound with St. John's Wort and Vervain, and their hands carrying posies, danced merrily around it, and threw the flowers into the seething flames, at the same time invoking the Saint's name, and praying for more good and less ill in the coming year than in the last. The practice arose, it is said, in a misunderstanding of the Scriptural description of St. John as "a burning and a shining light."

Stow alludes to the bonfires, and adds that "every man's

door, being shadowed with green birch, long fennel, St. John's Wort, orpin, white lilies, and such like, had also lamps of glass, with oil burning in them all the night."

In the villages of France and Germany it is customary on this day to gather a species of St. John's Wort, and suspend it above the cottage-doors or in the windows, in order that its sanctity may prohibit spirits of evil from entering the house. Hence the plant was called "*Fuga dæmonum*."

Its connection with the Magical rather than with the Healing Art is insisted upon in the following version of a German *lied*:—

"The young maid stole through the cottage-door,
And blushed as she sought the plant of power :
'Thou silver glow-worm, oh, lend me thy light,
I must gather the mystic St. John's Wort to-night—
The wonderful herb whose leaf will decide
If the coming year shall make me a bride.'
And the glow-worm came
With its silvery flame,
And sparkled and shone
Through the night of St. John,
And soon has the young maid her love-knot tied.
With noiseless tread
To her chamber she sped,
Where the spectral moon her white beams shed :
'Bloom here, bloom here, thou plant of power,
To deck the young bride in her bridal hour !'
But it drooped its head, that plant of power,
And died the mute death of the voiceless flower ;
And a withered leaf on the ground it lay,
More meet for a burial than bridal day,
And when a year was passed away,
All pale on her bier the young maid lay."

We are reminded of the supposed healing efficacy of many other plants by their popular names. Thus the Druids called the Mistletoe "*All-heal*"; and the little Wood-Loosestrife, a flower similar in appearance (except that its colour is yellow)

to the Scarlet Pimpernel, was known, not only as Herb two-pence, but as *herbe aux cent maladies*. "He who hath Sanicle needeth no surgeou," says an old writer; but, alas! it seems to have lost its whilom power of "making whole and sound all inward wounds and outward hurts." Take, again, the common Yarrow—with its bunch of white flowers, sometimes slightly tinged with piuk, and leaves cut into many divisions; it was formerly termed "Knyghton milfoil" and "Soldier's-wound-wort," because it was supposed to cure the wounds inflicted by a spear.

One of the ingredients to which professors both of the Healing and the Black Arts resorted in the concoction of their love-philtres was the Wild Vervain (*Verbena officinalis*), which, with its powdery notched leaves and small lilac-coloured flowers, is so common by our waysides and in our meadows. The ancients set great store upon it in enchantments and fortune-telling, and Dioscorides alludes to it as "the holy herb," perhaps because it was also used at religious festivals, and carried by ambassadors charged with the conclusion of peace. Not less highly was it esteemed by the Druids, who believed that it conferred the prophetic faculty. But for this purpose it had to be gathered "about the rising of the Great Dog-star, but so as neither sun nor moon be at that time above the earth to see it." It was also provided that before men took up the herb, they should bestow upon the ground where it flourished, honey with the combs, in token of satisfaction and amends for the wrong and violence done in depriving earth of so holy a herb.

Even as late as the last century a belief in its extraordinary virtues survived, and to hang it round the sufferer's neck was considered a cure for scrofula or the ague.* An infusion of its

* It is a curious fact that the Vervain loves the neighbourhood of man; and has never been found (it is said) at a distance of more than half a mile from human habitations.

fresh-gathered tops was considered useful against "obstructions of the liver and spleen: it is warm upon the stomach, and a continued use of it will remove nervous complaints."

Ben Jonson gives it a sacred character:—

"Bring your garlands, and with reverence place
The Vervain on the altar ;

and Sir Walter Scott includes it among the magical herbs :

"Trefoil, Vervain, John's Wort, Dill,
Hinder witches of their will."

The Trefoil, to which allusion is here made, better known, perhaps, as White Clover (*Trifolium repens*), was once held in high veneration by priests and people, from the sacred association suggested by its symbolic triple leaf. When St. Patrick was endeavouring to convert the Irish to a knowledge of the true God, he found them greatly perplexed by the mysterious doctrine of the Trinity in Unity. "Three Gods and yet one God"—the problem was beyond their faculty of comprehension. Picking a leaf of Trefoil, the great Missionary exclaimed:—"Here is but one leaf, and yet it is three. If in one of the humblest works of Creation this mystery exists, why should it not exist in the Creator Himself?"

"Full well he read, that mighty man of old ;
A mighty mystery of the humble sod ;
With wondering awe they saw the Saint unfold
The triple leaf, and teach a Triune God.
Then unbelief and prejudice took flight ;
With such 'weak things' did God the wise confound ;
And darkness fled before the flood of light,
And heathen ears received the Gospel sound."

Thenceforward, the Shamrock, as the Irish call it, became the emblem of Ireland—"chosen leaf of bard and chief."

According to Pliny, it is a plant peculiarly obnoxious to serpents ; so that *its* presence in Ireland may account for *their*

absence. He insists upon its efficacy as a remedy for the stings of snakes and scorpions. It is worth noting that in Arabic the trefoil is called *Shamrakh*; and further, that in Iran it was invested with a halo of sanctity as emblematical of the Persian Triads.

In one of his charming sketches of rural England, Mr. Richard Jefferys brings together a delightful cluster of wild flowers, such as may be seen in almost any of our green meadows. "Where the grass is thinner," he says, "are the heads of purple clover; pluck one of them, and while meditating, draw forth petal after petal, and imbibe the honey with the lips till nothing remains but the green framework, like stolen jewellery, from which the gems have been taken. Torn pink ragged robins, through whose petals a comb seems to have been remorselessly dragged, blue scabious, red knap-weeds, yellow rattles, yellow vetchings by the hedge, white-flowering parsley, white champions, yellow tormentil, golden buttercups, white cuckoo flowers, dandelions, yarrow, and so on, all carelessly sown broadcast without order or method, just as negligently as they are named here, first remembered, first mentioned, and many forgotten." Now, not a few of the wild flowers thus blended in one mass of varied bloom were dear in the eyes of the old herbalists and Lady Bountifuls and village dames for their real or reputed healing virtues. Take, for example, the Dandelion, which owes its name, as every young girl-botanist knows, to the fancied resemblance of its indented leaves to lions' teeth—*dent de lion*, *dandelion*. There are really valuable medicinal properties in its root, which yields the *Taraxacum*, so much favoured by the faculty as a remedy in liver complaints. Dandelion tea, in some parts of England, is still popular as a laxative and a blood-purifier.

Medicinal properties were also assigned to the Knapweed, the Latin name of which (*Centaurea*) refers to the Centaur Chiron—that celebrated early practitioner of the Healing Art

—who, when his foot was wounded by Hercules, applied one of these plants, and effected a cure.

Roaming further afield than Mr. Jefferys takes us, we find upon hilly pastures and breezy moorlands the pretty little Euphrasy, or Eye-bright, which was formerly regarded as an ophthalmic remedy of infinite value. Infused in milk, it is still employed by country people for affections of the eye. Its juice has diuretic properties. Milton, in his "Paradise Lost," describing Adam after his fall as less keen of vision than in his primitive state of innocence, represents the Archangel Michael, when about to guide his eye into the Future, as having first

"The film removed,
Which that false fruit that promised clearer sight
Had bred, then purged with euphrasy and rue
The visual nerve."

The Compositæ family includes a plant well-known to the old village pharmacopœia, Wormwood, or *Artemisia absinthium*, easily recognized by its downy leaves and drooping flowers. It furnishes a strong bitter; and mothers were accustomed to apply the juice to their nipples when desirous of weaning their infants from the breast. In country places a decoction of wormwood was often drunk as a tonic. The husbandman's poet, quaint Thomas Tusser, attributes a peculiar property to this plant, which London lodging-house keepers are requested to note:—

"While wormwood hath seed, yet a handful or twain
To save against March to make fleas to refrain:
Where chambers is swept and wormwood is strown,
No flea for his life dare abide to be known."

At All Souls College, Oxford, beer was drunk with an infusion of wormwood in it. The silver cups of the College were called ox-eyes, and an ox-eye of wormwood was a favourite draught.

“The tops of the plants,” says Sir John Hill, “are to be used fresh gathered; a very slight infusion of them is excellent for all disorders of the stomach, and will prevent sickness after meals, and create an appetite; but if it be made strong, it will not only be disagreeable to the taste, but will disgust the stomach.

“The tops with the flowers on them dried and powdered, are good against agues, and have the same virtue with wormseed* in killing worms; indeed they are much better than the wormseed that is commonly to be met with, which is generally too much decayed. The juice of the large leaves of wormwood, which grow from the root before the stalk appears, is good against the dropsy and jaundice, for it opens obstructions, and works by urine powerfully.”

Several species of Feverfew were reputed to possess curative virtues, as stimulants and tonics. The Common Feverfew (*Pyrethrum parthenium*) was prescribed by village practitioners in cases of ague. Its strong, aromatic scent, no doubt, first attracted attention to it. The flowers of the wild Chamomile (*Matricaria chamomilla*), infused, furnish the once popular Chamomile Tea, a mild tonic and an appetizing bitter. Children used to be allowed to walk freely about beds of Chamomile from a notion that it favoured its growth:—

“The more you tread it,
The more you spread it.”

* Treacle Wormseed (*Camelina*) was formerly grown in English gardens. It is about two feet high, with round, firm, and upright stalks, which, towards the top, divide into branches. Its very numerous leaves are long, narrow, pointed, and of a dusky green colour. The flowers, small and yellow, grow in little clusters, and under them the long and slender pods, which are full of seeds. These seeds were bruised by the good women of the villages, and, mixed with treacle, given to robust children as a vermifuge. The medicine, however, acts violently, and would probably, in many cases, be dangerous.

Gerarde says of the Sweet Feverfew (*Matricaria suaveolens*) that "it fully performeth all that bitter things can do." And Sir John Hill, in his "Virtues of British Herbs," informs us that "a woman who could keep nothing on her stomach, and was perishing for mere want of nourishment, was cured by this flower, the yellow dilks dipt into boiling water. It was the most grateful bitter that could be tasted. Her stomach, that abhorred gentian and the like, bore this, and by persevering in its use she was cured."

To the mediæval medicine-chest belonged the Butter-Bur (*Petasites vulgaris*), formerly known as the plague-flower, and prized as "a sovereign medicine against the plague."

This plant has a wonderful faculty of reproduction, and, where it takes root, expels all other vegetation. Its leaves are large and heart-shaped—often about two feet in width; "one of them," says Lyte, "is large enough to cover a small table, as with a carpet. Hence its scientific name—petasites—as if to say, the umbrella-plant." Its remedial virtues lay in its root, a decoction of which is still "exhibited" by rustic Galens in cases of pestilential fever.

A word must be given to the Coltsfoot (*Tussilago farfara*), a decoction of its flowers having long been in vogue as a remedy for colds and coughs; and Coltsfoot lozenges were at one time a favourite household prescription. The blooms appear in early spring, and are pleasant of odour; the leaves follow afterwards.

The ghost of Hamlet's father, describing the manner in which his death was accomplished by "that monstrous, that adulterate beast," his brother, speaks of "juice of cursèd hebenon" as having been poured into "the porches" of his ear. And this juice, he says,

"Holds such an enmity with blood of man
That, swift as quicksilver, it courses through
The natural gates and alleys of the body, -

And with a sudden vigour it doth posset
And curd, like eager droppings into milk,
The thin and wholesome blood."

This "hebenon" we take to be an imaginary plant, though it is possible that the method of its application was suggested by a passage in Philemon Holland's translation of Pliny's "Natural History," in which the Roman philosopher asserts that the oil of the henbane seed, if dropped into the ears, will injure the reason. "Henbane" was known, of course, to the practitioners of ancient times. In small doses it acts as a gentle narcotic or sedative, which is free from the unpleasant consequences of opium.

The plant (*Hyoscyamus niger*) is a member of the Solanaceæ family, and easily distinguished by its strong, unpleasant smell. Its leaves are lanceolate and deeply cut; the flowers, which grow in spikes, are yellow as sulphur, and streaked with veins of purple. As it is a strong poison, the resemblance of its seed to filberts has led to serious accidents.

An evil reputation has always attached to the Deadly Nightshade (*Atropa belladonna*), which it cannot be said to have wholly deserved. For if its glossy black berries be poisonous, the plant yields a drug which, under the name of Belladonna, is of considerable efficacy in some severe forms of disease. On the other hand, it requires to be administered with great caution, from its influence on the action of the heart. As a cosmetic it has long been in favour, from the brilliancy it gives to the eyes, when applied for this purpose to the eyelids. The leaves are said to be useful against ringworm, tetters, and hard swellings, applied externally.

Yet another poison—one well known to the mediæval poisoners. It figures in history from its connection with the death of Socrates; for a good many people, besides Lord Macaulay's schoolboy, knows that the friend and teacher of Plato was compelled to drink its juice, which is a very

energetic poison. Medicinally, however, it has its value as an anodyne and antispasmodic, an absorbent, and a resolvent. It is used externally in the form of ointment or poultice. The most dangerous species is the Water Hemlock, or Hemlock Water Dropwort; and cattle and horses feeding on its root, which bears a strong resemblance to parsnip, have perished of it.

We turn to less ominous plants; to Fennel (*Meum fœniculum*), because it grows in Shakespeare's Garden and figured in Ophelia's posy. The leeches of old valued it for its supposed marvellous efficacy in ophthalmic affections. It was also supposed, if used as food, to fill the frame with new life, and to strengthen the muscular system. These properties are lightly indicated in the following verses:—

“Above the lowly plants it towers,
The Fennel with its yellow flowers;
And, in an earlier age than ours,
Was gifted with the wondrous powers
Lost vision to restore.

“It gave new strength and daring mood;
And gladiators firm and rude
Mingled it in their daily food;
And he who battled and subdued
A wreath of Fennel wore.”

The Mallows, or Malvaceæ, include many plants which to the eye seem not at all related—the Cotton Plant, for example, as well as the rich-coloured Hibiscus and the stately Hollyhock.

The common Mallow thrives all over England, brightening many a waste place with its large-lobed leaves and crimson flowers. Its emollient properties have long been known; and it is employed for fermentations in cases of swollen face or knee, tooth-ache, or pains in the joints. Its juice used to be confected in syrups and pastils, and a decoction from its

leaves was thought serviceable in allaying irritation of the pulmonary and other organs. These demulcent and emollient properties belong to all the species; but more particularly to the Marsh Mallow (*Althæa officinalis*). Cough lozenges made from the juice of the latter still enjoy a considerable share of public esteem.

Gerarde, in his "Herbal," refers to the pretty Wood Sorrel (*Oxalis acetosella*) under the two names of "Alleluya" and "Cuckoo Meat," either because the cuckoo feeds upon it, or because, he says, "when it springeth forth and flowereth, the *Alleluya* is sung in the Churches." Its leaves, having a pleasant acid taste, are used in sauces and salads; or, beaten up with three times their weight of sugar, make an excellent conserve. As an antiscorbutic and refrigerant, it has its value; and the wise women of our villages were fond of giving an infusion of its leaves to persons suffering from fever. Binoxalate of potash is obtained from these leaves by expressing the juice, and crystallizing; popularly it is known as Salt of Sorrel or Essential Salt of Lemons.

The herb-doctors sing the praises of Buckthorn (*Rhamnus*) which furnishes a bitter drink considered of some usefulness in intermittent fevers. Its berries yield a very strong purgative, which was highly appreciated by our great-grandfathers—*O dura patrûm ilia*!—all the more, perhaps, because it was excessively nauseous.

And now for another peep into Shakespeare's Garden. In one of those wonderful Sonnets which reveal so much of the great poet's individuality, he borrows an image from the fragrant blossoms of the dog-rose which garlanded its leafy hedge:—

"The canker-blooms have full as deep a dye
As the perfumèd tincture of the roses,
Hang on such thorns, and play as wantonly
When Summer's breath their markèd buds discloses,"

About mid-June, or even earlier, these "canker-blooms" hang out their modest beauties on every hedgerow and every wayside coppice—in shady dell, green lane, and leafy hollow—in the old chalk quarry, with its scattered patches of brier and bramble—in the mossy orchard—and round about the still sequestered pond; sometimes entwined with honeysuckle, sometimes with elder—always sweet and fair, but, alas, fugitive. Of the oval scarlet fruit, or "hips," of the dog-rose, the Elizabethan ladies made a much-prized conserve; they also employed them medicinally. Medicinal properties were likewise credited to the Trailing Dog Rose (*Rosa arvensis*), which is sometimes known as the Musk Rose, from the peculiar quality of its fragrance, and under this name is embalmed in the verse of Keats:—

"I saw the sweetest flower that Nature yields,
A fresh-blown Musk-Rose; 'twas the first that threw
Its sweets upon the summer; graceful it grew
As is the wand that Queen Titania wields:
And as I feasted on its fragraney
I thought the Garden Rose it far excelled

The Bryony, which, with its broad leaves and pale green clustered flowers, twines gracefully about the hedgerows of our leafy lanes, was much sought after by the "herb and simple" gatherers of old. The root, which has a repulsive odour, they employed as a purgative and an emetic. Externally, it was held to be a marvellously good thing for bruises. The leaves of the House Leek (*Sempervivum tectorum*) were esteemed for their cooling properties, and as a vulnerary. Curious was the superstition attaching to the White Meadow Saxifrage (*Saxifraga granulata*). Whoever has inspected its kidney-shaped leaves cannot fail to have observed their peculiar spotted surface, with its vague likeness to the human lungs. In accordance with the old doctrine of "signatures," a decoction of these leaves was therefore considered a curative in

lung-disease; while, in like manner, the fleshy grains or knobs on its root were held to prove its remedial utility for all swellings and excrescences on the human body.

It is enough that the Violet should win our praise by its modest beauty; but it has also its useful properties. A wine made from its fragrant flowers was greatly esteemed by the Romans; and the sherbet of the Turks is compounded of violet syrup and water. A Muhammadan tradition runs as follows:—"The Prophet said of the violet, 'The excellence of the extract of violets above all other extracts is as the excellence of Myself above all the rest of Creation; it is cold in summer, and it is hot in winter.'"

In the Scottish Highlands a preparation from the sweet violet was esteemed as a cosmetic. Professor Hooker quotes from the Gaelic:—"Anoint thy face with goat's milk in which violets have been infused, and there is not a young prince upon earth, who will not be charmed with thy beauty." It was formerly administered as a remedy in pulmonary complaints; but recent chemical research has led to the conclusion that for this purpose it is inefficacious. Chemists, however, make use of its syrup to detect the presence of acids and alkalis.

The Hepatica, with its pink or azure flowers, takes us back to the Ranunculaceæ. Its three-lobed leaves, from their resemblance to the form of the liver, have procured for it its English name of Liverwort, and induced our forefathers, trusting in their doctrine of "signatures," to believe in it as good for liver complaints. It was also esteemed in cases of jaundice, and "as an excellent medicine in the first stages of consumption."*

* The Grey Ground Liverwort (*Lichen cinereus terrestris*) was used as a remedy against the bite of a mad dog: "it is mixed with pepper, and the person is at the same time to bathe in the sea. There have been instances of its success, when given to dogs, but, perhaps, no cure was ever performed upon a human creature, when this terrible disease had arisen to any height."

The Marigold—

“ Which goes to bed with the sun,
And with him rises weeping ”—

is described by Gerarde as “ a great comforter of the heart.” The astringent properties of the Myrtle are well known. The ancients steeped it in their wine, which they believed to be thereby improved in flavour, and strengthened in its invigorating qualities ; the invalid used its berries as a medicine.

In the old time the Scarlet Pimpernel (*Anagallis arvensis*) was considered a provocative of mirth and a therapeuticon against low spirits. Its generic name, *Anagallis*, is from a Greek word, signifying to laugh. It is known in country parts as the Shepherd’s Warning, or Poor Man’s Weather-Glass, from its keen sensibility to atmospheric influences. As Erasmus Darwin rhymes :—

“ Closed is the pink-eyed Pimpernel . . .
’Twill surely rain, we see’t with sorrow,
No working in the fields to-morrow.”

“ Such plants as are insipid to the taste and smell,” says an old writer, “ have generally little virtue ; those with the most fragrant smell and sharpest taste have the greatest virtues of whatever kind. In general, those with a strong but agreeable taste are the most valuable ; and on the contrary, when a strong taste is also a very disagreeable one, or when the strong odour of a plant has something heavy and disagreeable, or overpowering in it, there is mischief in the herb. The few poisonous plants of this country are for the most part thus characterized.”

Our readers may apply these rules to the *Mandragora* or Mandrake, a plant involved in quite a cloud of myth and fable. The old belief was, that no one could pull it from the earth without fatal consequences. Therefore, a rope was attached to the root, and the other end round a dog’s neck,

and the dog was hunted about until the root was extracted. But we are assured that immediately afterwards the dog died—which was hard upon the dog. When uprooted, this interesting plant uttered a scream—an eëry fancy explained by Thomas Newton, who says, that it is supposed to be a creature having life, engendered under the earth of the seed of some dead person put to death for murder—a more eëry notion still! From an idea that it possessed aphrodisian properties, the mandrake was called “love-apple.” Venus herself was surnamed *Mandragoritis*. The Emperor Julian, writing to one of his correspondents, mentions that he has been drinking its juice nightly as a love-potion.

Its virtues as a narcotic were well known in early times. An allusion to them is made by Shakespeare, who represents Cleopatra as exclaiming—

“Give me to drink Mandragora . . .
That I might sleep out this great gap of Time
My Antony is away.”

Nearly all that is known of the folk-lore attaching to this plant is gathered up by Nares in his “Shakespearian Glossary” :—

“An inferior degree of animal life,” he says, “was attributed to it; and it was commonly supposed that, when torn from the ground, it uttered groans of so pernicious a nature, that the person who committed the violence went mad or died. (See Bulleine’s *Bulwark of Defence against Sicknesse*, p. 41.) These strange notions arose, probably, from the little less fanciful comparison of the root to the human figure, strengthened, doubtless, in England, by the accidental circumstance of *man* being the first syllable of the word. The ancients, however, made the same comparison of its form :—

“‘Quamvis semi hominis, vesaceo gramine foeta,
Mandragora pariat flores.’—COLUMELLA, *Hort.* v. 19.

The white mandrake, which they called the male, was that whose root bore this resemblance. Lyte says of it :—‘ The roote is great and white, not much unlike a radish root, divided into two or three parts, and sometimes growing one upon another, almost like the thighs and legs of a man.’—*Translation of Dodorno*, p. 437.

“ Here it is supposed to cause death :—

“ ‘ Would curses kill, as doth the mandrake’s groan,
I would invent.’ 2 *Hen. VI.* iii. 2.

“ Here only madness :—

“ ‘ And shrieks, like mandrakes torn out of the earth,
That living mortals, hearing them, run mad.’
Romeo and Juliet, iv. 3.

“ A very diminutive or grotesque figure was often compared to a mandrake, that is, to the root, as above described :—

“ ‘ Thou whoreson mandrake, thou art fitter to be worn in my cap
than to wait at my heels.’ 2 *Hen. IV.* i. 2.

“ It was sometimes considered as an emblem of incontinence, probably because it resembled only the lower parts of a man :—

“ ‘ Yet lecherous as a monkey, and the whores called him *mandrake*.’
2 *Hen. IV.* iii. 2.”

But enough of Mandragora, which has long ceased to have any influence on the imaginations of men.

We turn to the Asphodel, with its brighter associations. Old Gerarde says of it: “ ’Tis not yet found out what use there is of any of them in nourishment or medicines.” An unfortunate statement, which shows that the quaint old herbalist either did not know or had unhappily forgotten his *Æneid*. For Virgil represents Venus as coming to the aid of her son, Æneas, when Iapis, the leech, notwithstanding his knowledge

of all the herbs that grew, has failed to extract the spear from the hero's bleeding side; and plucking *Dittany*, 'a simple rare,' she accomplishes with wonderful facility this difficult surgical operation. Which is thus described by the poet (in Conington's spirited version):—

“Then Venus, all a mother's heart
Touched by her son's unworthy smart,
Plucks dittany, a simple rare.
Then, as they toil, she brings the cure . . .
And drops it where in shining ower
The crystal water stood,
With juices of ambrosia blent
And panacea of fragrant scent.
So with the medicated flood
The sage unknowing staunch'd this blood :
When all at once the anguish fled,
And the torn flesh no longer bled.
Now at a touch, no violence used,
Drops out the barb'd dart,
And strength by heavenly aid infused
Revives the fainting heart.”

Dittany of Crete, the ancient *Dictamnus*, seems to be identical with the Lancashire Bog Asphodel, the *Asphodelus Lancastriæ Verus*, which is common enough in the Irish bogs and on the west moorlands of Scotland. “Our foresters allege,” says Sir George Mackenzie, “that when deer are wounded, they lie on a certain herb which grows plentifully in our forests, and that by its virtue the bleeding is staunch'd and the wound healed. I took a quantity of it,” he adds, “and reduced it to a salve with wax and butter. Its effect was, that it healed too suddenly, so that I durst not venture to use it for any deep wound, but for superficial scars it has a very sudden operation.”

Boragineous plants receive their name from the Common Borage, a bright-blue flower, with hairy leaves. The leaves of all plants of this family are rough or hairy, except when, like

the Water Forget-Me-Not, they become smooth by living under water. It is said that the black stem of the Borage burns like match-paper; its root enters largely into the composition of rouge. The country people gather the flowers for making what is called "a cool tankard." Pliny tells us that, "if the leaves and flowers of Borage be put into wine, and that wine drunken, it will cause men to be glad and merry, and it driveth away all heavy sadness and dull melancholy." One marvels that so wonder-working a herb is not in greater request! Says Burton, in his "Anatomy of Melancholy":—

"Borage and hellebore fill two scenes,
Sovereign plants to purge the veins
Of melancholy, and clear the heart
Of those black fumes which make it smart."

The Viper's Bugloss (*Echium vulgare*) is a member of the Borage family. Its English name is due to a supposed resemblance between its spotted stem and the viper. So, too, in France, it is called "La Viperine;" and in Spain, "Herba de la Vibara." Acting upon their favourite superstition of "signatures," the mediæval doctors affirmed that it would heal the wound inflicted by a viper's bite; and Gerarde, going a step or two further, says, with obvious sincerity of faith:—"Its virtues are so forcible, that the herb only thrown before the scorpion, or any other venomous beast, causeth them to be without force or strength to hurt; insomuch that they cannot move or stir until it be taken away."

The Lungwort (*Pulmonaria officinalis*), also akin to the Borage, has blotched oval leaves, with a dim likeness to the surface of the human lung; hence it was accepted as an admirably good thing for lung complaints. An infusion of its leaves is slightly mucilaginous and emollient.

Another plant included in the Medicinal Herbarium of our forefathers was the Sweet Woodruff (*Asperula odorata*), with

its delicate-scented, slender, and shapely leaves, and its snow-white jasmine-shaped flowers. They largely used it as a medicine in liver complaints; and it generally mingled with the flowers that composed their dainty bowpots.

The common Goose-grass, or Cleavers, yields, when pressed, a juice, which has long been famous as a purifier of the blood. Our autumnal pastures brighten with the crocus-like flowers of the Meadow Saffron (*Colchicum autumnale*). During the winter it conceals its seeds under ground, and, in the spring, along with its large emerald leaves, puts forth the capsules from which is obtained the well-known specific for gout, *Colchicum*.

In the graphic description of Christmas customs which Sir Walter Scott has prefixed to the first canto of his "Marmion," he reminds us that

"Forth to the woods did merry men go
To gather in the mistletoe"—

which is, as everybody knows, a parasitical evergreen, twining itself about the Apple-tree or the Oak, and, much less frequently, about the Ash, Elm, Hawthorn, Hazel, Maple, Pear, Poplar, or Willow. For its seeds, owing to the viscous nature of their covering, adhere spontaneously to the back of trees.

By the old Norsemen this plant was held in special veneration, for which one of their legends attempts to account in the following fashion. One day, Balder, the young and beautiful, the god of poetry and eloquence—second son of Odin the Thunderer and Friga or Freya—informed his mother that he had dreamed a dream prophetic of his early death. To avert this catastrophe from her son, the Goddess summoned all the Powers of Nature—the elements, metals, diseases, trees, plants, animals—and made each one of them swear that it would never do harm to Balder. Thereafter he mingled freely

in the battles of the Gods, and fought fearlessly—as well he might do—in the midst of incessant storms of arrows. Loke, his enemy, wishful to discover the secret of his invulnerability, disguised himself as an old woman; and seeking out Friga, gained her ear by glowing praises of her son's prowess. "In the thick of the fight," he said, "the arrows and rocks fall upon him, but harm him not." "I believe it," replied the Goddess, "for all those substances are sworn to me." And with an astounding lack of reticence, she continued: "Nothing in Nature can injure him, except one little plant which grows, with scarce any root, on the bark of the oak. I have not cared to ask *its* protection, on account of its exceeding feebleness." Loke immediately set off in quest of this diminutive plant, and having found it, fashioned out of its stem an arrow, which he gave to the blind god Heda, saying, "Balder is before thee." Heda immediately discharged the arrow, and Balder fell to the ground, dead.

In their sacrificial ceremonies the Druids seem to have used only the mistletoe which grew on the oak, the favourite tree of their great god Tutanés. At the recurrence of the winter solstice they set out, followed by their people, in solemn procession, and to the sound of music. On reaching the sacred tree, they caused two white bulls to be bound to it; and the Arch-Druid, clothed in robes of white, having ascended it, with a golden sickle cut down the plant, which was caught by one of his subordinate priests in the folds of his vesture. The bulls were then sacrificed, and not seldom some human victims; after which the whole community indulged in rejoicings. The mistletoe thus collected was divided into small portions and distributed among the people, who suspended it close to the entrance to their huts as a propitiation to, and an asylum for, the sylvan deities during the time of frost and snow.

From the mistletoe was concocted a kind of universal

medicine, or Catholicon, which was not only an antidote to poison, but a remedy for all the ills that flesh is heir to.

Traditionally, the Elder (*Sambucus*) acquired an evil reputation, from the prevalent superstition that Judas, after betraying his Lord, hung himself on a tree of this kind. So says the author of "Piers Plowman":—

"Judas he japed with Jewish siller,
And sithan on an elder-tree hanged himself."

But in course of time its many excellent qualities, real or imaginary, came to be acknowledged, even by men of science, or (what is not quite the same thing) men of scientific tastes. John Evelyn declared that if its virtues were fully known, none would be sick or ailing any longer; and the illustrious Boerhaave held it in such high estimation that he never passed an elder tree without taking off his hat. We need hardly remind the reader that a familiar cordial or "wine" is made from its purple-black berries. The juice boiled down with a little sugar, when it comes to the consistence of honey, is the famous "rob of elder," good in colds and sore throats. An infusion of its inner bark has been given in dropsical diseases as a hydragogue cathartic; and "has been known to cure," says Sir John Hill, "when taken in time, and often repeated." From the cream-coloured blooms that make so fair a show in our hedges is distilled the Elder Flower Water, which, from its agreeable smell, is popular both with cooks and confectioners. Boiled in lard they yield a cooling ointment. These various uses have descended to us from quite a remote past; but in spite of the inherent conservatism of the British temper, a gradual oblivion seems to be stealing over them.

The Common White Lily must be included among the medicinal plants employed by unlicensed professors of the Healing Art. As a cure for the bite of a serpent it was fer-

vently believed in; and country people still use its bruised petals as a salve for bruise or wound.

We have neither the inclination nor the space to compile a complete Herbal; but it is necessary to show the extent to which the herb-doctors laid "the plants of the field" under contribution for medical purposes. With this object we shall append a brief catalogue, in alphabetical order, specifying also the principal diseases in which they were made use of:—

Adder's Tongue. As an ointment, the "sovereign'st thing for wounds."

Agrimony. In jaundice and diabetes. This plant was one of the old vulnerary herbs, and an ingredient in the arquebusade water.

Alehoof or Ground Ivy. "An excellent vulnerary—excellent in all disorders of the breast and lungs, and in those of the kidneys."

Allheal, or Crown's Allheal (*Panax*). A vulnerary.

Archangel (or Dead Nettle). "Good for bleedings at the nose, spitting of blood, or any kind of hæmorrhage."

Arum, Cuckoo-pint, My Lord and Lady. The root was used in palsies, also in scorbutic cases, and all inward obstructions.

Arsmart or Water Pepper (*Persicaria urens*). "An excellent medicine in obstructions of urine, in the gravel and stone; and in the jaundice and beginning of dropsies it has done great cures. The juice of the fresh-gathered plant is the best way of giving it. Outwardly it is good to cleanse old ulcers."

Avens. A cordial and sudorific.

Ladies' Bedstraw (*Gallium luteum*). "This herb," says Sir John Hill, "is little regarded, but it has very great virtue; it should be gathered when the flowers are not quite blown, and dried in the shade. An infusion of it will cure the most

violent bleedings at the nose, and almost all the other evacuations of blood."

Behen (white). Against nervous complaint.

Wood Betony. For disorders of the head and all nervous complaints; will cure the most inveterate headaches. May be taken as tea, or dried and powdered.

Bindweed. Used as a strong purge.

Bistort. Reputed to be "one of the best astringents in the world; not violent, but sure."

Bitter-sweet. "A safe and excellent purge."

Blood-wort. A powerful astringent.

Blue Bottle (*Cyanus*). "The leaves which grow on the stalks of this plant, fresh-gathered and bruised, will stop the bleeding of a fresh wound, even if a large vessel be cut. They are not sufficiently known for this purpose, but they exceed all other things: and may save a life when a surgeon is not to be had in time for such an accident. A distilled water of the flowers used to be kept in the shops, but it was of no value."

Black Bryony. A diuretic.

Brook-lime. Anti-scorbutic, and good for sweetening the blood.

Buck-beans (*Trifolium palustre*). Will cure agues, and is of great use against rheumatism.

Burdock. A diuretic; beneficial in dropsies.

Burnet. A cordial and a sudorific, and recommended in fevers.

Butter-bur. Was used as a remedy in pestilential fevers; a good diuretic, and excellent in the gravel.

Calamint. In weaknesses of the stomach, and habitual colics.

Chamomile. A bitter, useful for many disorders of the stomach.

Canterbury Bells. Also named Throat-wort; "an infusion

of the dried leaves, sharpened with a few drops of spirit of vitriol, and sweetened with honey, is an excellent medicine for sore throats, used by way of a gargle."

Carlino Thistle. One of the pretended remedies against the plague.

Wild Carrot. A diuretic.

Catmint. Hysterical complaints, "vapours," and fits.

Clary. A cordial, and, in some degree, an astringent; good against headaches.

Cleavers. An antiscorbutic.

Cockle. Useful, in the form of an electuary, in dropsy and jaundice.

Sea Colewort (*Soldanella*). A violent purge, used in dropsies and rheumatism.

Corn Marigold. Good against all obstructions, and in jaundice.

Costmary. For strengthening the stomach, curing headaches, and opening obstructions of the liver and spleen.

Cowslip. "The flowers have been celebrated very much against apoplexies, palsies, and other terrible diseases, but at present in such cases we do not trust such remedies."

Cowslip of Jerusalem (*Pulmonaria maculata*). Excellent, it is said, in decoction for coughs, shortness of breath, and all disorders of the lungs. When fresh bruised, and put into a new-made wound, the leaves—which should always be gathered before the stalks grow up—stop the bleeding, and heal it.

Cranesbill or Herb Robert. A favourite astringent. "It is to be observed," says Sir John Hill, "that Nature seems to have set her stamp upon several herbs which have the virtue to stop bleedings. This and the tutsan (*Androsæmum*), the two best remedies the fields afford for outward and inward bleedings, becomes all over as red as blood at a certain season." This is nothing better than a revival of the old

doctrine of signatures. The Sir John Hill whom we sometimes quote was a literary and medical adventurer, with a good deal both of cleverness and audacity (1716-1775). He was brought up as an apothecary, and acquired an extensive knowledge of botanical practice and theory. Removing to London, he became a professional author, quarrelled with the Royal Society, anticipated in *The Inspector* our modern Society papers, produced a costly work on "The Vegetable System," illustrated by sixteen hundred plates, and obtained from the King of Sweden a Swedish order—after which, he dubbed himself "Sir" John Hill. A good account of him will be found in the elder Disraeli's "Quarrels of Authors."

Crosswort. A good styptic and astringent.

Cuckoo-Flower or Lady's Smock. A diuretic; used in gravel, jaundice, green sickness, and scurvy.

Cudweed. A vulnerary.

Daisy, the great. Infusion of the flowers recommended for coughs, shortness of breath, and disorders of the lungs.

Daisy, the little. An excellent anti-scorbutic.

Devil's Bit (*Succisa*). The root of this Scabious terminates abruptly. An old legend relates that the Devil bit off a portion, because it was of such wondrous power that it would cure all maladies. A decoction of the leaves was considered useful in coughs and lung disorders; the root, powdered, in fevers, and to encourage perspiration.

Dock, sharp-leaved. An anti-scorbutic.

Garden Dock, or Monk's Rhubarb. A slight laxative and astringent.

Dodder. A purgative, of use in obstructions of the liver, jaundice, and other disorders arising from the same cause.

Dog-mercury (*Mercurialis perennis*). A dangerous plant, though recommended by Gerarde.

Dragon. At one time esteemed as a remedy in malignant fevers and the small-pox.

Elecampane (*Inula helenium*). "The root is the part used; we have it dried from Germany, but it is for most purposes better to take that fresh out of the garden, which we have here. Hardly any plant has more virtues. It is good in all disorders of the breast and lungs, and it opens obstructions. It operates by urine powerfully, and also by sweat; and the juice of it will cure the itch, applied externally. Its greatest virtue, however, is against coughs, and for this purpose it is best taken candied, provided that be well done."

Eryngo. Balsamic and diuretic, good against coughs and the jaundice.

Female Fern. Remedy against the tapeworm.

Feverfew. Excellent against hysteric disorders.

Flag (*Acorus calamus*) or Sweet Sedge. A cordial and sudorific.

Flax, purging, or Small cathartic (*Linum catharticum*). The name indicates its properties.

Flea-bane. Here, too, the name indicates its supposed virtue; the juice was applied externally to cure the itch.

Foxglove. Yields the well-known *digitalis*, which, for its efficacy in cardiac complaints, has been called by a French professor, "the opium of the heart." The old name of the plant was Folk's-glove (the "folk" being the fairies).

Garlic. Excellent in asthmas, hoarseness, coughs, and in all difficulties of breathing.

Germander. Esteemed as a remedy against the gout and rheumatism.

Goat's Beard. The root was used as a restorative.

Golden Rod. At one time celebrated as a vulnerary or wound-herb. The root has purgative properties.

Goutwort or weed. Supposed to be singularly efficacious in attacks of the gout.

Hare's Ears. Always reckoned among the vulnerary plants.

Hart's Tongue. An excellent astringent, opens obstructions of the liver and spleen.

Hedge Mustard. Recommended in asthmas, hoarsenesses, and other complaints of the breath.

Honewort (*Sison segetum*). Painful swellings are, in some parts of the country, called *hones*; and as this herb was efficacious in curing them, it thus obtained its popular name. Its leaves were beaten in a marble mortar into a kind of paste, and applied like a poultice.

Horehound. Useful for coughs, chronic hoarseness, and disorders of the lungs.

Horsetail. A vulnerary.

Hyssop. Excellent against coughs, hoarseness, and obstructions in the breast.

Hedge Hyssop. A remedy in dropsy, rheumatism, and jaundice.

Jessamine. The flowers are said to be "an excellent medicine in coughs." Six ounces are used to a pint of boiling water, and after the decoction has stood twelve hours, enough honey is added to make it into a thin syrup.

Knapweed. Described in the Herbals as a gentle astringent.

Knot-grass. Is spoken of as useful for a similar purpose.

Leek. An infusion of the roots, made in water, and boiled into a syrup with honey, is prescribed as "good against asthmas, coughs, and obstructions in the breast and lungs."

Leadwort. The dried root is said to be a cure for headache and tooth-ache.

Liverwort, Green. Prescribed for obstructions of the liver, jaundice, and in the early stages of consumption.

Lupine. Good in the early stages of consumption, jaundice, and dropsy.

Madder. Used in gravel and jaundice, and against obstructions of the liver and spleen.

Marjoram. Good against the headache and dizziness; and all the inferior order of nervous complaints.

Masterwort. Good in fevers, disorders of the head, and of the stomach and bowels.

Maudlin (*Ageratum*). Used as a remedy in cases of sluggish or congested liver.

Meadow Sweet. Useful as a diaphoretic, with a little astringency.

Milkwort (*Polygaris vulgaris*). "This plant had passed unregarded as to any medicinal use, till Dr. Tennant brought into England the seueka root, famous in America against the effects of the bite of the rattle-snake, and found here to be of service in pleurisies: but when it was found that this was the root of a kind of milkwort, not very different from our own, we tried the roots of our own kind, and found them effectual in the same cases: as to the poisonous bites of a serpent, they are so uncommon here, that we need not regard that part of the qualities, but we find it good in the other disorder, and in all diseases in which the blood is thick and sily. The fresh root is best, but it has not its full virtue except in spring, when the stalks are just shooting out of the ground, for this reason it is most proper to take it up at that time, and dry it for the service of the year. When fresh, it is best given in infusion; but when dried, it is kept in powder."

Water Mint. Used as a remedy for colic and pains in the stomach and bowels.

Moonwort. An astringent and a vulnerary.

Mother of Thyme. Used in nervous disorders, and affirmed to be an infallible cure for the nightmare.

Motherwort (*Linurus cardiaca*). Famous for curing palpitation of the heart, when it arises from a hysterical cause.

Nard. Is commended in fevers and the jaundice.

Oxeye. Another remedy for the jaundice.

Parsley. Also used as a cure for jaundice.

Wild Parsnip. Again the jaundice! Pollitory is also described as a remedy for this disease.

Pimpernel. A mild diaphoretic; makes an excellent drink in fevers.

Polypody. The root is described as affording, in decoction, a safe and gentle purge; is good in the jaundice and dropsies, and is an excellent ingredient in diet drinks against the scurvy.

Primrose. The juice of the root, snuffed up the nose, or the dried root powdered, is said to relieve head-ache.

Ragwort (Broad-leaved). Applied externally as a remedy against pains in the joints. Gerarde speaks of it in glowing terms, when "ministered in oyntment and oyles," and says he cured with it a gentleman "who was grievously wounded in the lungs."

Garden Rocket. An infusion of the leaves made into a syrup is praised as a cure for coughs.

Rosa Solis, or Sun Dew. Is esteemed a great cordial, and good against convulsions, hysteric disorders, and tremblings of the limbs.

Saffron. Pithily described as "a noble cordial."

Sage. As sage tea, excellent in fevers, and good against head-aches, and diseases of the nerves; promotes perspiration.

Wood Sage. Described as valuable against rheumatic pains.

Sanicle. Was supposed to cure ruptures.

Sarsaparilla. Is accounted a "sweetener of the blood," and an antiscorbutic.

Summer Savory. Is good against "colic pains," and removes obstructions.

Scabious. A strong infusion of the leaves is declared to be good against asthmas and difficulty of breathing, and the same infusion made into syrup is good against coughs.

Garden Scurvy Grass. An anti-scorbutic.

Shepherd's Purse. Tho juice is cooling and astringent.

Skirret. The roots boiled in milk form an excellent restorative for people who have suffered long illnesses. A decoction of them was given as a remedy against the gravel.

Smallage (*Apium*). A strong infusion of the roots was used in cases of gravel and jaundice; the seeds against the colic, and to strengthen tho stomach.

Sneezewort. Tho leaves, dried and powdered, taken in the form of snuff, were thought excellent for the head-ache. The roots, dried, are almost as pungent as pellitory of Spain, and cure the tooth-ache in the same manner. A piece held in the mouth fills it with saliva in a moment.

Solomon's Seal. The root was much used for an outward application against bruises.

Soapwort. A diuretic, and a sweetener of the blood.

Southernwood. The tops of the young branches were used as a vermifuge.

Speedwell. Is said to act as a diuretic. "There was an opinion lately that this plant would cure the gout. The dried leaves, picked from tho stalks, were sold in our markets, and people made a tea of them. The opinion was so prevalent, that the plant was in a manner destroyed for many miles about London, but like all other things that want the truth for their foundation, it came to nothing."

Spleenwort. As a cure for obstructions of the liver and spleen was much used.

Spurge. Said to be good in rhenmatism and dropsy; but, surely, the remedy would be almost worse than the disease.

Tansy. The flowers, dried, powdered, and mixed with treacle, were a common vermifuge.

Teazle. The root is a bitter, and was used in infusion to strengthen the stomach and create an appetite.

Blessed Thistle (*Carduus Benedictus*). A bitter and

stomachic. Was at one time supposed to be endowed with great virtues against fevers of all kinds.

Milk Thistle. The root was esteemed as good against the jaundice; the seeds, beaten up in an emulsion with barley water, were used in pleurisy.

Thoroughwax. The leaves were used to heal wounds and bruises.

Toad Flax. An infusion of the tops was "excellent in jaundice"; a cooling ointment was made by boiling the fresh plant, chopped to pieces in lard, until it was crisp; after which the lard was strained off.

Tormentil. A cordial and astringent; a decoction of the root was thought serviceable in feverish diarrhœa.

Tutsan (*Hypericum androsæmum*). The leaves were highly valued for dressing fresh wounds. The young and tender ones at the tops or the branches, if bound upon the wound stopped the bleeding, and effected a speedy cure.

Valerian. A diaphoretic, and useful in disorders of the nerves.

Whitlow Grass (Tree-leaved). Excellent against the scurvy, if used when fresh gathered.

Woodruff. A cordial and stomachic; "good against the jaundice."

CHAPTER V.

ENGLISH PHYSICIANS IN THE NINETEENTH CENTURY.

DURING the present century everybody must admit that the repute of the Medical Profession in England, to which considerations of space compel us to restrict our survey, has been worthily maintained and extended by an increasingly large number of able and accomplished practitioners. In London alone a score of first-class names will rise in a moment to every lip, to say nothing of Edinburgh, Glasgow, and Aberdeen—Dublin, Cork, and Belfast—Birmingham, Liverpool, Manchester, Hull, Bristol—each of which has its men of light and leading; while in every provincial town you will find one or more resident physicians of admitted capacity and experience, and it is notorious that the “rural doctor” of the present day is, in all respects, the superior of his predecessor, with fuller knowledge and more abundant resource. A higher standard is required of members of the profession, and they have risen to it and with it. That this is the case we are all aware and all acknowledge, and a recognition of the fact is apparent in our literature. The ignorant, pretentious, boisterous, and vulgar individual who figured in fiction and on the stage in bygone days—wielding the lancet with sanguinary frequency, and cramming bolus and draught down the throat of his unfortunate patient with reckless indifference to the true character of his disease—would now be rejected as an extravagant and even ridiculous caricature. In his place we find, let us say, the Lydgate of George Eliot’s “Middlemarch”—the Mr. Gibson of Mrs. Gaskell’s “Wives

and Daughters"—the Dr. Staines of Charles Reade's story of "A Simpleton." Throughout the present century there has been a continuous upward and onward movement in the medical profession, with the natural result of increased respect and confidence on the part of the public. That this is to the common advantage we must all agree. The development is conspicuous in our medical literature, which is now remarkable for its breadth of view and elevation of thought as well as for its technical merits: so that standard medical works are no longer considered the exclusive appanage of the professional library, but are extensively patronized by the general reader. Then we have the medical journals; these are, of course, addressed to a professional *clientèle*, but they are conducted with an ability, an independence, and a freedom from the trammels of tradition and conventionality which would strike our forefathers dumb with astonishment. Who can estimate the debt due from the public as well as from the profession—for whatever benefits the one benefits the other—to the veteran *Lancet*, or to its younger rival, the *Medical Times*?

One of the most honoured names among the great physicians of the present century is that of

MARSHALL HALL, 1790-1857.

He was the fourth son of Mr. Robert Hall, of Basford, near Nottingham, where he was born on the 18th February, 1790. At the age of four he suffered from a dangerous illness; but, recovering, grew up a dutiful and affectionate boy, of whom his parents spoke as "never causing them any sorrow." He showed a good deal of precocious talent. One day he proposed to his father's accountant the startling query, "Is hell under the bottom of the sea? Because if it is," he added, "I have been thinking that if we bored some holes in the bottom of the sea, and let the water through, wo might extinguish the fire."

His love of reading amounted to a passion, his favourite volumes being those which have always had a supreme attraction for English boys—the “Pilgrim’s Progress,” “Robinson Crusoe,” and the “Arabian Nights.” He devoted many hours to the Scriptures, and to studying the suggestive pages of God’s other Revelation, the Book of Nature; finding an inexpressible delight in the contemplation of stars and flowers, woods, streams, and emerald meadows. Being placed at an early age at an academy at Nottingham, he quickly earned distinction by his eager devotion to his work. Not that he was a dull, plodding bookworm; he loved his books, but he loved also his playground sports, and in these he exhibited the same fervour, interest, and self-control as in the more solid occupations of the school-room. Like every other large assemblage, the school had its bully, with a hand as heavy as his temper was brutal. He was taller, older, and stronger than Marshall Hall; but the latter having detected him in acts of cruel injustice, bravely denounced him to his face, and when challenged, accepted the challenge, fought him, and thrashed him. Throughout his life he was conspicuous for his sympathy with the right, and the manly courage with which he protested against the wrong.

When apprenticed to a chemist at Newark, he occupied his leisure hours in the cultivation of music and Latin; and whatever he undertook he carried through—“impossible” being a word that found no place in Marshall Hall’s vocabulary. His ardent desire was to become a physician, and in 1809 he repaired to Edinburgh to undergo the necessary preparation. The plan of study which he laid down—and, what is more important, followed out—testifies to no ordinary amount of resolution, tenacity and intelligence on the part of a young man of nineteen:—

“1. To spend two hours in the morning in dissection and the study of operations.

“2. Then two or three hours in the wards of the hospital, inquiring particularly into the history, symptoms, treatment, and effect of remedies on each patient, but especially making a particular study of diagnosis.

“3. The plan of studying diagnosis :—

“(1.) The formation of a diagnostic arrangement for bringing together those diseases which, being most similar, are most apt to be continually mistaken ; and,

“(2.) The collection of diagnoses from every source of distinction, in the history, symptoms, causes, effect of remedies, and the like.

“(3.) This plan embraces all diseases—medical, surgical, puerperal.

“(4.) To go through a course of study comprising chemistry, physiology, and materia medica, in as practical a manner as possible.

“(5.) To study the Latin and French languages, reading Celsus, Heberden, and Gregory ; Corvisart, Chardel, Pinel, Desault, Bichât.”*

In his later life the great physician adhered to the same methods of self-discipline and self-culture ; while so unremitting was his application that his fellow-students said of him, “Hall never tires ; Hall has discovered how to live without sleep.”

He took his degree of M.D. in June, 1812, and after a tour on the Continent, settled down at Nottingham, where he speedily acquired an extensive practice. He found leisure,

* Marie François Bichât, the great anatomist and physiologist, author of the valuable treatise, *Recherches Physiologiques sur la Vie et la Mort*, in which he introduced the now universally accepted distinction between *organic* and *animal* functions, born 1771, died 1802 ; Jean Nicholas Corvisart-Desmarests, 1755–1821, a distinguished professor and practitioner, attended the Empress Marie-Louise at her *accouchement* ; Pierre-Joseph Desault, born 1744, died 1795, a famous surgeon and anatomist.

however, to make some important contributions to the literature of his profession, such as his treatise "On Diagnosis," 1817, afterwards included in his great work on "The Principles and Practice of Medicine." At the time of its publication, the improvements introduced by the French pathologists were unknown in this country; his observations, therefore, on the countenance, the attitude, the peculiar and distinctive modes of respiration, must be acknowledged as original, and as demonstrative of very considerable powers of investigation. In 1818 appeared his book "On the Mimoses; a Descriptive, Diagnostic, and Practical Essay on the Affections usually denominated Bilious, Nervous, etc."; and in 1820 his "Medical Essays: on the Effects of Intestinal Irritation: on Some Effects of Loss of Blood: on Exhaustion and Sinking from Various Causes." In the following year he quitted Nottingham for the Metropolis, which offered a wider field for his abilities; and in 1827 published his very valuable "Commentaries on Some of the More Important Diseases of Females," to which later writers have frequently been indebted. The result of a good deal of independent and careful inquiry appears in his "Critical and Experimental Essay on the Circulation of the Blood," 1831, in which he proves that certain causes tend to modify the flow of blood along the minute arteries and veins and capillary vessels, and that they become variously pulsatory, oscillatory, retrograde, or arrested, in one or other of the three series of vessels. The influence exerted by the brain and spinal marrow upon the circulation is a point of critical importance, which had long engaged the attention of physiologists—Haller, Spallanzani, Fontana, Whyte, Le Gallois, Philip, Clift, Fleurens, Brachet, and others—and it is not yet satisfactorily determined. Dr. Hall added the data collected by his own experience and observation, and by an ingenious series of experiments established the independence of the circulation of the brain and spinal marrow.

His next publication was a volume of "Observations on Blood-letting, founded upon Researches on the Morbid and Curative Effects of Loss of Blood," 1832, in which he examined the phenomena arising from the Loss of Blood—the remarkable difference in the degree of tolerance or intolerance of loss of blood in different diseases—the equal danger of an inefficient and undue use of the lancet, and laid down a rule for obviating this danger. He puts forward some particulars in this ably-written treatise which, I think, are not without interest to the unprofessional reader. "Persons in health and of moderate strength," he says, "will generally faint, if bled in the erect posture, on taking fifteen ounces of blood. I have known seventy ounces to be taken in the sitting posture, in the tendency to apoplexy, without syncope; but the case is an extreme one. Patients, with pleuritis or pneumonia, frequently lose thirty-five ounces of blood without fainting. In bronchitis, little more is borne to be lost than in health. A stout person in fever will frequently faint on losing ten, twelve, or fourteen ounces of blood. In intestinal irritation, with urgent symptoms, even the abstraction of nine or ten ounces of blood will generally induce delirium. In delirium tremens, or puerperal delirium, the patient soon faints from loss of blood. The same thing is still more observed in those cases of violent reaction which arise from loss of blood itself. In dyspepsia, hysteria, and chlorosis, the susceptibility to syncope from loss of blood is very great. I have known a patient of good strength, affected with cholera, faint on taking [losing ?] four ounces of blood, although she had shortly before borne to lose nearly twenty ounces without faintness, under the influence of inflamed *mammæ*."

Dr. Hall adds:—

"I imagine that the rationale of this fact will be found in the obvious difference in the nature of those diseases. In all

those cases in which the circulation of the heart and larger arteries alone is affected, and especially in such as involve irritation or exhaustion, there is early syncope on taking blood. But in such cases as consist in an affection of the capillary circulation, and especially such of those as affect the head, it requires the abstraction of much blood to induce deliquium. Syncope is prevented by the influence exerted by this state of the capillary circulation over that of the heart and larger arteries, and over the whole system, and especially over the circulation within the brain; and it does not entirely subdue the morbid action of the capillary vessels, even when induced. To induce syncope in pure fever, we have then but to subdue the state of reaction in the heart and larger arteries. In inflammation we have not only to do this, but to overcome the influence of a permanent morbid action of the capillaries. This is especially observed in inflammation of the serous membranes, and within the head.

“The practical application of this fact consists chiefly in its affording a rule for blood-letting in all cases in which this measure is required to be fully instituted; a guard against undue blood-letting, both in this and some other cases, and a source of diagnosis.”

But Dr. Marshall Hall's principal claim to the grateful recollection of posterity must be based on his ingenious application of physiological science to practical medicine in his “Memoirs” and “Lectures on the Nervous System,” 1837-38. In these works he has enunciated a new principle, which has deservedly excited considerable interest; and Müller and Fleurens, among other foreign physiologists, have accepted it with enthusiasm. The principle of action which he discovered is the same as that which was described by Haller as the *vis nervosa*, by Müller as the *motorische kraft*, and by Fleurens as *excitabilité*; but while they had limited its influence to certain directions, Hall contended for its

widest possible agency in the animal economy. His system of *incident nerves* of the true spinal marrow, and of *reflex nerves*, was new to physiology. The *vis nervosa*, he says, presided with a power of its own over the acts of ingestion and expulsion in the animal economy—over “the orifices and sphincters” of the animal frame. To produce this “excito-motory power,” five conditions, he adds, are necessary: 1, An excitant; 2, An excitor nerve continuous to the nervous centre; 3, The integrity of that centre; 4, A motor-nerve continuous to the muscle, to be excited into contraction; and 5, That muscle endowed with perfect irritability. If any part of this one be interrupted, the phenomenon ceases immediately. All these conditions Dr. Hall illustrated by a variety of experiments, from which he inferred the existence of—

1, *A true spinal marrow, physiologically distinct from the chord of intra-spinal nerves.*

2, *A system of excito-motory nerves, physiologically distinct from that of the sentient and voluntary nerves.*

3, *A nervous influence—the excito-motory power—operating in directions incident, upwards, downwards, and reflex, with regard to the true spinal marrow, the centre of this excito-motory system.*

The entire “*medulla spinalis*” in the *vertebrata* consists, then, of *two* portions, so intimately blended together, indeed, as not to be easily separated by the anatomist, and, perhaps, only to be distinguished by physiological experiments and pathological observations. The *first* of these is the *intra-vertebral chord* of sentient and voluntary nerves, which proceed to and from the *cerebrum* as their centre. The second, which may be denominated the true spinal medulla, is distinguished by being *excito-motory*, and is the axis of a peculiar system of excitor and motor, or excito-motory nerves, generally, but, perhaps, not invariably, blended with the former.

Dr. Hall's labours in the cause of philanthropy, his active crusade against slavery, the persecutions to which he was subjected by men unable to comprehend the noble unselfishness of his character—these are matters on which we have no room to dilate, though they form important chapters in his biography. The general public will remember his useful suggestions for restoring the apparently drowned, adopted and circulated by the Royal Humane Society. He was, in all respects, the model and type of an English physician of the modern school—enlightened, cultivated, genial, with quick perceptions and broad sympathies; thoroughly conversant with the best traditions of his profession, but not servilely enthralled by them; always open to the reception of new facts; and incessant in his labours for the relief and welfare of afflicted humanity. He enjoyed a large measure of public esteem and respect, and wide-spread was the regret when his brilliant and useful career was closed in 1857, after a long and painful illness.

RICHARD BRIGHT, 1789–1858.

“There has been no English physician,” says Dr. Barlow,* “perhaps it may be said none of any country, since the time of Harvey, who has effected not only so great an advance in the knowledge of particular diseases, but also so great a revolution in our habits of thought, and methods of investigating morbid phenomena and tracing the etiology of disease, as has the late Dr. Richard Bright.

“A great advance towards the true pathology of dropsy was made by Blackall, who pointed out that in a great number of cases the urine coagulated upon the application of ‘heat or nitrous acid;’ and those which were for the most part

* Preface to Bright's “Clinical Memoirs of Abdominal Tumours and Intumescence” (New Sydenham Society, 1860).

cases of general dropsy, he called inflammatory dropsies. It is, however, remarkable that Blackall, although he availed himself of all opportunities of inspection after death, never succeeded in connecting the coincidence of these two remarkable phenomena, dropsy and albuminous urine, with disease of any internal organ. Dr. Wells, too, a name scarcely less illustrious than Bright or Blackall, investigated the subject in a most philosophic spirit, but missed, though narrowly, the discovery of the diseases of the kidney. Such was the state of knowledge upon this subject when the inquiry was taken up by Dr. Bright." To his persistent labours, directed by a singularly close faculty of observation, was due the discovery of the renal malady which bears his name—the terrible Bright's disease.

Richard Bright was born at Bristol in 1789. He was educated under Drs. Estlin and Carpenter, and went in 1808 to the University of Edinburgh, where he studied philosophy and chemistry under Dugald Stewart and Leslie, and medicine under Monro and Duncan. In company with Holland (afterwards Sir Henry) and Sir George Mackenzie, he visited Iceland in 1810, and his powers of observation were happily illustrated in the botanical and zoological chapters which he contributed to Mackenzie's record of his travels. For two years he studied at Guy's Hospital, under Sir Astley Cooper; but returned to Edinburgh in 1812 to complete his University career, and in September, 1813, graduated as M.D. In 1814 and 1815 he travelled on the Continent, and especially in Lower Hungary, of which he published, in 1818, a very interesting and comprehensive description. With an intellect well equipped for the work before it, he threw himself into the medical life of London, acting as assistant-physician to the London Fever Hospital. He was on the Continent again in 1818-19; but in 1820 seriously commenced the practice of his profession in London, and accepted the assistant-physicianship

to Guy's Hospital, the medical school of which owes much of its high reputation to his vigorous exertions. He was well supported by Dr. Addison, when that eminent physician was afterwards associated with him in the Lectureship on Medicine.

His world-wide celebrity dates from the publication of the first volume of his "Reports of Medical Cases" in 1827, in which his discovery of Bright's disease of the kidneys was elucidated and established. The second volume, dealing with various forms of cerebral and spinal disease, such as paralysis, epilepsy, hysteria, and hydrophobia, appeared in 1831. In the following year he was elected a Fellow of the Royal College of Physicians. In 1833 he delivered the Gulstonian Lectures, on the Functions of the Abdominal Viscera; in 1836 was Censor; and in 1837 delivered the Lumleian Lectures, on the Brain.

As a practitioner, Bright obtained great celebrity, especially in dropsical cases, and was appointed one of the physicians extraordinary to the Queen. He died on the 11th of December, 1858, in the seventieth year of his age.

Though the labours connected with the elucidation of the disease which bears his name were continued through a large portion of his professional life, his active mind was frequently directed to other points of pathology, and more particularly to diseases of the brain, the liver, and the pancreas. He gave great attention also to diseases of the abdominal viscera; and his final contribution to medical literature was the series of monographs upon Abdominal Tumours, published by the New Sydenham Society.

"Dr. Bright was a man of naturally clear judgment, and as far as such a virtue can be said to have been a natural gift, of great industry. He brought not only those gifts to the study of his profession, but his clear and vigorous intellect had been rendered more discriminating by the strict discipline of a sound and

extended education, by which, too, he had learned to exercise his industry upon objects worthy of his energetic pursuits. He had also what might be considered as a natural gift, and by no means a common one—a singular power of observation, which had, perhaps, by constant exercise, become so habitual that the most trifling circumstance rarely escaped him.

“There was one other quality by which Bright was eminently distinguished, and that was his philosophic truthfulness. He was, indeed, in all the relations of life, a man without guile, and as he would have scorned an untruth, so would he not endure that the slightest bias should be given to any observation, in order to favour any particular views or opinions. This rigid and self-denying honesty in scientific investigation is no ordinary virtue; but in Bright it reaped its reward, for there have been few, if any, who have observed and recorded so much, and have reasoned so extensively upon those observations, who have subsequently been required to correct or retract so little.”

THOMAS ADDISON, 1793-1860.

Another great physician, who has given his name to a disease, and whose memory therefore, like Bright's, will probably be perpetuated while humanity continues subject to its legion of corporeal ills, is Thomas Addison. He was born about four years later than Bright, and survived him by nearly one year and seven months. He was born at Longbenton, near Newcastle, in April, 1793, and died at Brighton, on the 29th of June, 1860.

Educated very thoroughly at the Newcastle Grammar School, he was sent direct to the Edinburgh University when about sixteen years old. Time and talent he devoted freely and fully to medical studies, and soon distinguished himself both in the lecture room and the dissecting theatre. He was only

twenty-one when the Royal Medical Society recognized his capacity by appointing him one of its presidents. In the following year he settled in London, in Skinner Street, Snow Hill, and began the slow, laborious work of building up a practice. But there was a force, an originality, in the man which soon made itself felt, and after acting for some years as physician to the General Dispensary, he made a great step forward in his professional career by obtaining the appointment, in 1824, of Assistant Physician to Guy's Hospital—an exceptional distinction, as hitherto it had been the custom to appoint to such posts only men who had been connected with Guy's as pupils. His success was so brilliant that in 1827 he was preferred to the lectureship of *Materia Medica*. In 1837 he was elected full Physician, and, having been appointed joint-lecturer with Dr. Bright on Medicine, in conjunction with him published a volume on "The Elements of the Practice of Medicine." His pen was afterwards very busy, and with rich results to the scientific literature of his profession. Pneumonia, the Anatomy of the Lungs, and Phthisis were the subjects he dealt with; and he aroused a vehement opposition by his enunciation of the doctrine that in all phthisical disease the fatal work of destruction begins with inflammation. He was no specialist; there was scarcely any human ailment to which his attention was not directed, and directed with a view to exhaust all its capabilities—such as affections of the skin, liver maladies, and cerebral affections arising from disease of the kidneys. The particular form of disease which is connected with his name, because first detected and described by him, is that of the supra-renal capsules. It was the French physician, Trousseau, who did homage to its able discoverer by naming it "*La Maladie d'Addison*."

Addison was a man of strong original intellect, but also of a nervous and susceptible temperament, which prevented him from realizing the full measure of success to which he was

justly entitled. Like Bright, he was intensely veracious and honourable; never seeking to detract from the just claims of others; steadfastly maintaining what he believed to be the truth, but always listening with respect to the views of an opponent. Just as he was no specialist, so was he no theorist: he could not be led to toy with speculations, assumptions, or hypotheses—he invariably fell back upon facts, upon the results of experience. “Possessing,” says Dr. Wilks, “unusually vigorous perceptive powers, being shrewd and sagacious beyond the average of men, the patient before him was scanned with a penetrating glance, from which few diseases would escape detection. He never reasoned from a half-discovered fact, but would remain at the bedside with a dogged determination to track out the disease to its very source, for a period which constantly wearied his class and his attendant friends. So severely did he tax his mind with the minutest details bearing upon the exact exposition of a case, that he has been known to startle the ‘sister’ of the ward in the middle of the night by his presence; after going to bed with the case present to his mind, some portion of what he considered important detail in reference to it occurred to him, and he could not rest till he had cleared it up. He has also been known, after seeing a patient within the radius of eight or ten miles, to have remembered on his near approach to London, thinking over the case on his way, that he had omitted some seemingly important inquiry, and to have posted back some miles for the purpose of satisfying his mind on the doubt which had occurred to it. If at last he could lay his finger on the disease, his victory was attained, and his painstaking satisfactorily rewarded.”

Such was Dr. Addison: in honour of whom a ward has been distinguished by his name in the new buildings of Guy’s Hospital.

ROBERT JAMES GRAVES, 1797-1853.

Robert James Graves, the son of Dr. Graves, Professor of Divinity in Dublin University, was born in Dublin on the 27th of March, 1797. His college course was exceptionally brilliant, and after carrying off a succession of prizes, he crowned his victories by winning the undergraduates' gold medal. He graduated M.B. in 1818, and then spent some years in gathering up the knowledge obtainable at the London and Edinburgh medical schools, and in visiting the chief Continental scientific centres, where he formed the acquaintance of the most eminent physicians and physiologists. While travelling in Italy he fell in with Turner, the great painter, and a sympathetic fellowship being established between the two, they made numerous journeys together—though it is said, that during months of friendly intercourse, each remained ignorant of the other's name. This seems utterly improbable; though we can well believe that, to humour his eccentric companion, Graves pretended an ignorance which did not really exist.

The young doctor was a capital linguist; and on one occasion was imprisoned in a German town for ten days. He had lost his passport, and the officials insisted that no Englishman could speak German so well as he did. He was also gifted with no ordinary courage and presence of mind. On a voyage from Genoa, the ship being caught in a terrible storm, her captain and crew were deserting her in the only boat, when Graves, though ill at the time, seized an axe, and stove in one of her planks, rendering her unserviceable. He then took the command, repaired the pumps with the leather of his own boots, and saved the vessel, carrying her into port triumphantly.

On his return to Dublin in 1821, he was appointed physician to the Meath Hospital, and became one of the founders

of the Park Street School of Medicine. He rapidly obtained an extensive private practice. At the outset he may have owed something to the influence of his family, but his remarkable capacity and acquirements soon made their mark. "Nature," says Dr. Stokes (at one time his pupil, and afterwards his colleague), "had been bountiful to him: he was tall in stature, of dark complexion, and with noble and expressive features. In conversation he possessed a power rarely met with; for while he had the faculty of displaying an accurate and singularly varied knowledge without a shade of egotism, he was able to correct error without an approach to offence. He had at once a warm and sensitive heart, and ever showed lasting and therefore genuine gratitude for the smallest kindness. Loving truth for its own sake, he held in unconcealed abhorrence all attempts to sully or distort it; and he never withheld or withdrew his friendship from any, even those below him in education and social rank, if he found in them the qualities which he loved, and which he never omitted to honour. . . . It is to be observed that as his mind was open and unsuspicious, he occasionally fell into the error of thinking aloud without considering the nature of his audience, and of letting his wit play more freely, and his sarcasm, when defending the right, cut more deeply, than caution might dictate." But if he made an enemy here and there, he made many friends; and his enemies were the dull and envious, who could exercise no influence against him which he could not easily subvert. Publicly and privately, the estimation in which he was held deepened and extended every year.

In 1827 he was elected King's Professor of the Institutes of Medicine. He contributed several valuable papers to the *Edinburgh Philosophical Journal*, and to the Transactions of the Royal Irish Academy. He assisted in the establishment of the *Dublin Journal of Medical Science*, and for some years was its main support. His papers on "The Chances of Life"

and "Temperament and Appetite" illustrate in a very forcible manner the characteristics of his genius. In 1843 he published the great work on which his reputation will depend, his "Clinical Lectures on the Practice of Medicine"—a work of remarkable suggestiveness and originality. "We must award to it the highest praise," says Dr. Stokes, "as combining in a philosophical eclecticism the lights of the past with those of the present. For his mind, while it mastered the discoveries of modern investigation, remained imbued with the old strength and breadth of view so characteristic of the fathers of British medicine. And thus he had the rare privilege of leading the advance of the present school of medicine, while he never ceased to venerate and to be guided by the wisdom, the mode of thinking, and the labours of the past."

Trousseau, the great French physician, writes:—Graves is in my acceptance of the term a perfect clinical teacher. An attentive observer, a profound philosopher, an ingenious artist, an able therapist, he commends to our admiration the art whose domain he enlarges, and the practice of which he renders more useful and more fertile. "In enforcing the necessity of giving nourishment in long-continued pyrexias, he assailed, single-handed, a mode of treatment which the practice of ages seemed to have justified, for low diet was then regarded as an indispensable condition in the treatment of fevers. Had he rendered no other service than that of completely reversing medical practice upon this point, Graves, by this single act, would have established an indisputable claim to our gratitude." He himself said, one day, that his epitaph ought to be—"He fed Fevers."

Dr. Graves died of liver complaint on the 20th of March, 1853.*

* See Dr. Stokes's Memoir, prefixed to Dr. Graves's "Studies in Physiology and Medicine," 1863.

SIR ROBERT CHRISTISON, 1797-1882.

In the annals of Medical Jurisprudence there is, I think, no more illustrious name than that of Robert Christison; who, in everything connected with toxicology, must always be accepted as a standard authority.

He was born at Edinburgh on the 18th of July, 1797; entered the University in 1811, and passed with distinction through both the literary and the medical curriculum. For two years and a half he was resident assistant in the Royal Infirmary. Having graduated as M.D. in 1819, he devoted the next eighteen months to "walking" St. Bartholomew's Hospital, London, and to studying toxicology at Paris under the illustrious Orfila, and chemistry under the not less illustrious Robiquet.

On his return from the Continent, he began practising in Edinburgh, where he had been appointed Professor of Medical Jurisprudence. He occupied this chair for two years, investing it with an influence and an importance it had never before possessed. In 1832 he was preferred to the professorship of *Materia Medica*, which he held for the long period of forty-five years. His great work on "Poisons" first appeared in 1829. It has undergone great improvements in successive editions, and is now recognized as a standard authority, both in Great Britain and on the Continent. His undisputed eminence in this department led to his being called as medical witness in every important poisoning trial, down to the notable case of Palmer of Rugeley, in 1856, when Lord Campbell, the presiding judge, specially complimented him on the value and significance of his evidence. There can be no doubt that the murderer's condemnation was largely due to the force and impressiveness with which Christison indicated and explained the results of his investigations, and showed how

conclusively they proved that Palmer had employed strychnia in getting rid of his victims.*

Christison was also the author of a learned and comprehensive "Dispensatory," or commentary on the drugs included in the British and foreign pharmacopœias; of a treatise on "Granular Degeneration of the Kidneys"; and of numerous contributions to the medical periodicals.

He was President of the Edinburgh College of Physicians in 1838 and 1846, and from 1868 to 1873 was President of the Royal Society of Edinburgh. For several years he was physician-in-ordinary to the Queen in Scotland. He received the degree of D.C.L. from Oxford in 1866; was created a Baronet on the recommendation of Mr. Gladstone in November, 1871; and received the degree of LL.D. from the University of Edinburgh in 1872.

He died on January 23rd, 1882, in his eighty-fifth year.

SIR JAMES YOUNG SIMPSON, 1811-1870.

Among the benefactors of mankind a foremost place must be conceded to Sir James Simpson. Who shall attempt to compute the aggregate of physical and mental pain which his great discovery has prevented, or to count the number of precious lives—lives of fathers and mothers, sons and daughters—which it has saved? We crown our famous warriors, who have slain their thousands and tens of thousands, with all the honours which the lavish hand of national vanity can bestow. But shall not the world's gratitude be given to the man who saves life, and relieves and annihilates the paroxysms of human agony?

* In this *cause célèbre* the medical witness employed by the defendant was another eminent toxicologist, Dr. Alfred Swaine Taylor (1806-1880), who published in 1865 his *magnum opus*, "The Principles and Practice of Medical Jurisprudence." He was a voluminous and luminous writer on professional subjects.

In every respect Sir James Simpson was a remarkable man. "Born in a condition," says his biographer, "and in early years surrounded with circumstances, little favourable to intellectual pursuits, a strong will, steady self-reliance, and singular industry enabled him to surmount every obstacle, and climb to high social position and world-wide celebrity, as physician, philanthropist, and man of science. In that branch of a noble profession* to which he chiefly devoted his genius, talents, and highest energies—a branch in which even great skill fails, if dissociated from high moral tone—his almost maidenly delicacy of taste and feeling drew to him the love and trust of the most gentle and refined. True manliness and deep tenderness have seldom been more perfectly combined than in his person. It was not unfrequently his lot, as it has been the lot of most men who have raised themselves to high place, to be entangled in controversy :

"Sæpius ventis agitur ingens
Pinus."

When he deliberately took up a position, he held it with vigorous determination against all comers, and made his assailants feel the weight of his blows. In such circumstances no considerations could influence him till he had secured, what he had believed to be, the triumph of truth. But he disliked controversy, and no sooner had an opponent given way than he expressed his willingness to forgive and forget. More than once he showed his readiness to do battle for a bitter enemy, who for the time was upholding the honour of his profession, or the interests and dignity of science. In the last years of his active usefulness, and when in the very bloom and vigour of his faculties, Sir James lived as an earnest, devoted, and humble Christian, feeling it ever to be

* Obstetrics. As an accoucheur Sir James Simpson was, perhaps, unequalled.

the crown and glory of his life that he could sincerely and joyfully say, 'It pleased God, Who called me by His Grace, to reveal His Son in me.'"

James Young Simpson, seventh son and eighth child of David Simpson, a baker, at Bathgate, in Linlithgowshire, was born on the 7th of June, 1811. His father was a man of steady industry and deep religious earnestness: his mother, a woman of exceptionally noble disposition, with great natural intelligence and force of character. In after-years the successful physician loved to speak of her worth. Her health had begun to fail during his childhood, and he was left much with her while the other members of the family were at work. And fresh throughout life remained with him the memory of her appearance, as she knelt in prayer, which was her habit several times a day. She died when he was only nine years old, and the care of the household then fell on her only daughter Mary, who was eleven years older. She became like a mother to James, watching over him tenderly, assisting him with his lessons, and cherishing high hopes of his future, for already his talents had put forth their promise, and his family felt a firm conviction that he was born to make their name illustrious. He was their "wise wean" and "young philosopher." At school he showed uncommon diligence, quick apprehension, and a tenacious memory. He had no dislike to childhood's sports, but much preferred his books. His thirst for knowledge was unquenchable. There was nothing about him, however, of that unfortunate character, the pretentious prig. He was ever loving, gentle, and obliging. His elder brother, Alexander, who loved him deeply, says: "He was aye at the call of the older members of the house, running with calls, or ready to keep the shop for a time, when he always had a book in his hand."

Such a lad was not to be chained to the monotonous life of a baker's shop. The family happily decided that he should go

to college, and at the age of fourteen he entered the Edinburgh University, where he studied Mathematics under Wallace, Natural Philosophy under Leslie, and Moral Philosophy under John Wilson. Before his second session he gained a small bursary, or exhibition, of the value of £10, tenable for three years, which enabled him to lessen his demands on the family purse. And he lived with all the thrift peculiar to Scottish students. One of his earliest purchases was a ninepenny copy of a little book entitled "The Economy of Human Life," and he entered a quotation from it—evidently as a rule of conduct—on the fly-leaf of his cash memorandum book: "Let not thy recreations be expensive, lest the pain of purchasing them exceed the pleasure thou hast in their enjoyment." Assuredly, he was a rigorous observer of the rule. As for recreations, like the snakes in Iceland, there were none. His living was ordered on the most modest scale. He paid 3s. a week for the rent of his room in Adam Street; and his purchases were confined to the most modest articles of diet, a few books, and miscellaneous items. Such as—"Vegetables and Byron's Beauties"; "Finnon Haddies, 2d., and Bones of the Leg, £1 1s."; "Subject, £2, Spoon, 6d., and Bread and Tart, 1s. 8d."; "Fur cap, 14s., Mary's Tippet, 2s. 6d."; "Duncan's Therapeutics, 9d."; "Snuff, 1½d." (used to keep him awake over his books at night); and "Early Rising, 9½d."

As a medical student, Simpson's progress was rapid, especially in Surgery, in which he attended Liston's class. He had many of the qualities essential to success as a surgeon, but on the other hand he had an almost feminine sensitiveness which shrank from contemplating the worst aspects of human suffering. "It was when looking on the great surgeon's work that he first began to grope after means for the alleviation of pain, when the patient was in the hands of the operator. After seeing the terrible agony of a poor Highland woman under amputation of the breast, he left the class-room

and went straight to the Parliament House to seek work as a writer's clerk. But, on second thoughts, he returned to the study of Medicine, asking, 'Can anything be done to make operations less painful?' "

He was sorely wounded in his home affections by the death of his father, which took place in January, 1830. It occurred at a critical time, when he was just going up for his Surgeon's degree, but he gathered himself together with all his natural energy, and passed his examination with great credit. Thus he became a Member of the Royal College of Surgeons (Edinburgh) before he was nineteen years of age. As he was too young to offer himself for the degree of M.D., he left Edinburgh for a season, assisting at one time Dr. Dawson of Bathgate, and at another, Dr. Girdwood of Falkirk. In 1831 he resumed his studies, partly supporting himself by the stipend he received from Dr. Gairdner for helping him in Dispensary work. He took his degree in 1832, his thesis or exercise on the occasion being "*De Causa Mortis in quibusdam Inflammationibus.*" Its exceptional merits, both literary and scientific, drew the attention of Dr. Thomson, the Professor of Pathology, who offered him the post of assistant, with a salary of £50 per annum. It was while discharging the duties of this post that he decided on devoting himself specially to the study of Obstetrics, urged strongly to this decision by Dr. Thomson's advice.

He entered upon his career under a deep sense of the high and holy character of his profession, which he afterwards eloquently expressed in addressing a class of students: "The profession is, in many respects," he said, "the most important secular profession which a man can follow. Its importance depends on the priceless value of the objects of the physician's constant care and study, viz., the guardianship of the health and of the lives of our brother-men, and the defence of the human body and human mind against the attacks and

effects of disease. Other pursuits become insignificant in their objects when placed in contrast with this. The agriculturist bestows all his professional care and study on the rearing of crops and cattle; the merchant spends his energies and attention on his goods and his commissions; the engineer upon his iron wheels and rails; the sailor upon his ships and freights; the banker upon his bills and bonds; and the manufacturer on his spindles and their products. But what, after all, are machinery and merchandise, shares and stocks, consols and prices current, or the rates of cargoes and cattle, of corns and cottons, in comparison with the inestimable value and importance of the health and the very lives of those fellow-men who everywhere move, and breathe, and speak, and act around us? What are any, or what are all of these objects, when contrasted with the most precious and valued gift of God to earth—human life? And what would not the greatest and most successful followers of such varied callings give out of their own professional stores for the restoration of health, and for the prolongation of life—if the first were once lost to them, or if the other were merely menaced by the dreaded and blighting finger of disease.” He continues: “Nature has happily ordained it as one of the greatest laws on which she has founded our moral happiness, that the performance of love and kindness to others should be a genuine and never-failing source of pleasure to our own hearts. It is thus strictly as well as poetically true,

“ ‘That, seeking others’ good, we find our own.’ ”

No one who has had any intimate acquaintance with the medical profession will doubt but that, by the immense majority of its members, Sir James Simpson’s view is the view generally entertained of their duties and obligations. Medical men are proud of their vocation; are sensible of its dignity; are conscious of the vast importance of their work; and minister in no reluctant spirit to the well-being

of their fellows. In no profession, I believe, is disinterestedness, unselfishness, and generosity more predominant. Comic writers are frequently pleased to represent the physician as more anxious for the payment of his fee than for the recovery of his patient; but such men are rare—their conduct is the exception to the golden rule—and most practitioners are ready at any moment to give their best services to the poor and needy, and to devote as much time and attention to their unprofitable patients as to their wealthiest patrons. They fully realize to themselves as the great objects of their professional career those which the poet Crabbe has indicated in his vigorous verse :—

“Glorious your aim—to ease the labouring heart,
To war with death, and stop his flying dart ;
To trace the source whence the fierce contest grew,
And life's short lease on easier terms renew ;
To calm the phrenzy of the burning brain,
And heal the tortures of imploring pain ;
Or, when more powerful ills all efforts brave,
To ease the victim no device can save,
And smooth the stormy passage to the grave.”

In 1833 Simpson joined the Royal Medical Society of Edinburgh, and the Royal Physical Society, of which he was afterwards elected President. In 1835, accompanied by Dr. Douglas Maclagan, now a leading Edinburgh physician, and Professor of Medical Jurisprudence in the Edinburgh University, he went on a tour of inspection of the principal Schools of Medicine and the chief hospitals in London and Paris, extending his journey to Liége, Brussels, and Antwerp, and on his return to England visiting Oxford, Birmingham, and Liverpool.

In the session 1835-6 he was elected President of the Royal Medical Society, a distinguished professional honour, and chose as the subject of his inaugural dissertation, “The Diseases of the Placenta.” A contemporary journalist has

drawn a graphic sketch of the young physician's personal appearance at this period: "A pale, large, rather flattish face, massive, brent brows, from under which shone eyes now piercing as it were to your inmost soul, now melting into almost feminine tenderness, a coarseish nose, with dilated nostrils, a finely-chiselled mouth, which seemed the most expressive feature of the face, and capable of being made at will the exponent of every passion and emotion. Who could describe that smile? When even the sun has tried it he has failed, and yet who can recall those features and not realize it as it played round the delicate lines of the upper lip, where firmness was strangely blended with other and apparently opposing qualities? Then his peculiar, rounded, soft body and limbs, as if he had retained the infantile form in adolescence, presented a *tout ensemble* which, even had we never seen it again, would have remained indelibly impressed on our memory."

In May, 1836, he received the appointment of House-Surgeon to the Lying-in Hospital. The salary was small, but the position carried with it a publicity which was beneficial to him professionally. On the resignation of Dr. Thomson, he acted as interim Professor of Pathology; and his pathological lectures, as well as a course which he delivered on Midwifery, convinced the profession and the public that no ordinary man had come amongst them. On the 26th of December, 1839, by his marriage with his cousin, Miss Grindlay, of Liverpool, he set the seal on his domestic happiness; and in the following February he crowned his professional career with victory by securing his election, at the early age of twenty-eight, and in spite of a powerful opposition, to the Chair of Midwifery. He was not, however, entirely free from anxieties: his habit of calling things by their right names had provoked enmity; some of his colleagues were jealous of his success; and at the same time

he was involved in pecuniary difficulties. Good management, and an increasing and increasingly lucrative practice, soon rescued him from these sordid cares, and he was too strong a man to be shaken or overwhelmed by the attacks of envy or prejudice. His work at this period of his life was on a colossal scale. He toiled all day and far into the night, restricting himself to three or four hours' sleep. "Patients," says his biographer, "began to crowd his house. From the outset he exercised a singularly attractive influence over the sick, and those who imagined themselves sick. Schemes of philanthropy got his attention. Friends sought his advice on matters outside his profession, and he took up their case as if he had nothing else to do. Strangers addressed him very much as if they regarded him as a kind of Attorney-General for the civilized world. Authors forwarded their works, requesting his opinion or praying for a word on their behalf. Young artists sought his patronage. Archæologists began to regard him as an authority. Parents, whom he had never looked in the face before, came to consult him about wayward sons, who had outgrown parental control, or who, they were sure, were very clever, if only their speciality could be found. . . . He had a willing ear, a kind word, a wise or weighty advice for each, as the case required. . . .

"At night he gave himself to the preparation of class lectures, and papers in the literature of his profession. But almost nightly, and often several times in a night, when cosily seated and in the midst of an interesting or difficult theme, the ring of the door-bell told him of a summons to the bedside of a patient. He soon began to know how the visitor regarded the case, according as the ring was spasmodic and abrupt, quiet and low, or loud but stately. The evil effects of all this work and anxiety again and again showed themselves. Headaches—nervous, digestive, cerebral—palpitation, and acute pain in the region of the heart, frequently forced him to

take to his bed. While helping and healing so many he took scant care of his own health. 'Well or ill,' he said, 'I must work. In fact, I can't afford to be ill.' Even in the beginning of his career, his work was thus engrossing, and he gave himself to it heartily and enthusiastically. But never merely for the money it was expected to fetch. This was, no doubt, present as a motive, but there was nothing base in it. On the contrary, when the pursuit of riches goes hand in hand with generous feelings and noble, unselfish acts, it takes its place in the list of the highest of human efforts. Had the getting of gain been Dr. Simpson's ruling motive, he would have looked more closely after his fees, and have given less of his valuable time to work that brought no fee. When urged by relatives and others to regulate the management of his practice so as to make the fee secure, he answered, 'I prefer to have my reward in the gratitude of my patients.'"

Every year witnessed the growth of Simpson's fame and the extension of his practice. Every year witnessed some special work done by this active, restless, comprehensive intellect in medicine or literature. He published in 1841 a singularly exhaustive paper on Leprosy and Leper Houses. In 1843 he began his vigorous crusade against the existing management of Hospitals, which eventuated afterwards in the establishment of the Cottage-Hospital system. His pen was constantly active in public correspondence with members of his profession upon important points connected with the practice of Medicine. For theological questions he found a corner in his busy brain: nor did he suffer the great political movements of the time to escape his attention. In 1845 he purchased and began to occupy the house (No. 52) in Queen Street, Edinburgh, with which his name will always be associated; and there he frequently drew around him a circle of friends, distinguished, each one of them, in art, science, or letters. Those who had the happiness of attending these bright

and varied symposia will never, we have been told, forget their bright and varied interest. Meanwhile, his remarkable success and skill as an accoucheur, and in the treatment of the diseases of women and children, led to the inclusion among his patients of the leading families of the aristocracy. Even his prolonged and bitter controversy with Syme, the celebrated surgeon, did him no harm—his antagonist was so manifestly in the wrong. In January, 1847, his professional status was formally recognized by his appointment as one of Her Majesty's Physicians for Scotland.

We now arrive at the subject most closely interwoven with his name and fame in the mind of the public—the introduction of Chloroform as an anæsthetic. Writing to his brother to inform him of the Queen's mark of favour, he says:—"I am far less interested in it than in having delivered a woman this week without any pain while inhaling sulphuric ether." Ever since he had witnessed the terrible agony of the Highlander under the surgeon's knife, the discovery of some mode of relief for such sufferers had constantly occupied his thoughts and hopes. On the 21st of November, Mr. Liston had performed two operations while the patients were under the influence of ether,* and Simpson immediately resolved to test its efficacy in accouchements. But he had scarcely done so before he lighted upon a new and more powerful anæsthetic—Chloroform, which was first discovered and described, almost simultaneously, by Soubeiran (1831), and Liebig (1832); while its composition was accurately ascertained by the eminent French chemist, Dumas, in 1835. Its advantages over ether he considered to be the following: 1. A greatly

* In 1800 Sir Humphry Davy recommended nitrous oxide, or "laughing gas," as capable of destroying physical pain. In 1835, Robert Collyer introduced ether; and in 1840, Jackson, of Boston, administered sulphuric ether, and communicated his discovery to a dentist named Morton, who first used it successfully in September, 1846.

less quantity is requisite to produce the anæsthetic effect. 2. Its action is much more rapid and complete, and generally more persistent. 3. Its inhalation and influence are more agreeable. 4. A smaller quantity being used, it is less expensive. 5. Its odour is far from being unpleasant, and does not long remain attached to the clothes of the attendant. 6. It is more portable and transmissible. 7. No special kind of inhaler or instrument is necessary for its exhibition.

Having satisfied himself by numerous careful experiments that the new anæsthetic was all he considered it to be, he soon began to make use of it, and on the 10th of November, 1847, brought it before the Edinburgh Medico-Chirurgical Society. It leaped into immediate popularity, though some clerical wiseacres objected to its use on the ground that as pain was ordained by the Creator, to seek to mitigate or remove it was an act of impiety—a conclusion which leads me to wonder whether they had ever had an attack of toothache? A more serious objection arose from the deaths which sometimes occurred under its influence. But it still holds the field as the best and easiest anæsthetic, the administration of which is tolerably safe when the patient has no cardiac complaint. It has proved to the afflicted a boon of incalculable value, while it has enabled the surgeon to perform the most severe operations with an ease and a certainty which were impossible under previously existing conditions.

In 1851 Dr. Simpson published a treatise on “Homœopathy,” which went far to destroy that amazing development of scientific quackery. It is impossible for us here to enter into all its arguments, but a brief summary can hardly fail to be of interest to the reader:—

“1. That both the profession on the one hand, and Hahnemann himself on the other, utterly repudiate the compatibility of the two systems—Homœopathy and scientific Medicine—the principles and practice of which are as much

opposed to each other as light to darkness, virtue to vice ; thus exposing the knavery of those who profess to believe in and to practise both. 2. That Hahnemann himself very rarely, if ever, administered to his patients anything but small grains of sugar ; and he confessed he did this 'for the sake of keeping up in the patient's mind the firm belief that each powder contains a particular dose of some medicine.' 3. That, except at Vienna, homœopathy is now comparatively little heard of in Germany and France ; and that, notwithstanding Leipsic is the head-quarters of this doctrine, the Homœopathic Hospital of that city, a small house in the suburbs, contains only eight beds, of which Mr. Lee, who lately visited it, found only two or three occupied ; and that it was never sanctioned by any individual of eminence in the profession. 4. That the theory of homœopathy is never carried out in practice, and, indeed, never can be, from the natural impossibility of doing so. 5. That although different effects are theoretically said to be produced by different dilutions, yet homœopathsists themselves testify to effects quite the same from all dilutions. 6. That the supposed statistical evidence in favour of homœopathic practice is founded on false and disingenuous returns. 7. That all attempts to obtain physical proofs either of the activity, or even of the existence, of the drugs said to be contained in the infinitesimal doses, have failed. Homœopathsists have not been able to show by the highest magnifying powers of the solar microscope, by the 'magnetoscope,' or 'new magnetic indicator,' or by any other means, the existence of the smallest quantity of medicine in any of their preparations. The 'magnetoscope' has, however, revealed much that one would scarcely have expected to exist, of the effects and vagaries of human credulity. 8. That there is no foundation whatever for the leading principle of homœopathy, *Similia similibus curantur*, except that which is grounded on a gross perversion of medical facts.

9. That the writings and the practice of different homœopathists are so full of contradictions and inconsistencies, that it is impossible either to harmonize or reconcile them, except on an hypothesis fatal to their pretensions."

In Simpson's busy life he accomplished so many reforms, dealt with so many subjects, worked his active and elastic intellect with such intense eagerness, that it is impossible for us to attempt even a meagre outline of these labours. His literary, scientific, and professional occupations would more than have consumed the time at the disposal of any ordinary man, yet we find him making leisure, in a single year, to examine proposals for more thorough Sunday-school instruction in the poorer districts of Edinburgh; to investigate certain customs in vogue among the heathen tribes on the coast of West Africa; to master the views of Dr. Chalmers and Dr. Alison relative to the support of the poor; and even to make himself acquainted with the merits of a new Trawling Apparatus. In November, 1859, he laid before the Royal Society of Edinburgh a paper on "Acu-pressure, as a hæmostatic (blood-stopping) process, founded on the temporary metallic compression of arteries"—his object being to do away with the inflammatory action so often caused by ligatures when used to close up arteries after operations. The instruments which he proposed to employ were very sharp-pointed slender needles or pins of passive or non-oxidizable iron, headed with wax or glass, and in other respects also like the hare-lip needles commonly used by surgeons at the present day, but longer when circumstances required. They might be coated with silver or zinc on the surface, if such protection were deemed requisite.

"That needles used for the purpose of acupressure, and passed freely through the walls and flaps of wounds, will not be attended by any great degree of disturbance or irritation, is rendered in the highest degree probable by all that

we know of the tolerance of living animal tissues to the contact of medical bodies. Long ago, John Hunter pointed out that small-shot, needles, pins, etc., when passed into and imbedded in the living body, seldom or never produced any inflammatory action, or none, at least, beyond the stage of adhesive inflammation, even when lodged for years. Some time ago, when the subject of acupuncture specially attracted the attention of medical men, Cloquet, Pelletan, Pouillet, and others, showed that the passage and retention of long acupuncture needles was attended with little or no irritation in the implicated living tissues."

The surgeons resented this bold intrusion into a department which they considered their own, and some of them strongly denounced Professor Simpson's "innovation." But he was well able to hold his position. Objection was met by argument; theory by experience; and acupressure gradually rose into favour among the profession.

In January, 1866, he was created a baronet. Two years before he had received from the French Academy of Sciences the Monthyon Prize of 2000 francs (£80) for "most important benefits done to humanity." Referring to the baronetcy, *The Lancet* expressed the universal opinion when it said that the honour was fully deserved. "Sir James has long been foremost in his department of practice, and his name is associated with the discovery of that invaluable boon to suffering humanity—chloroform. This alone would entitle him to the honour he has received. Sir James Y. Simpson is distinguished as an obstetric practitioner, as a physiologist, as an operator, and as a pathologist of great research and originality." In 1866 the University of Oxford conferred on him the degree of D.C.L. But with all these honours came those heavy shadows from which the happiest human life is never exempt. His strong affections were deeply wounded by the death of his eldest son, and others of his children, in the

young promise of their lives, and he needed all his simple Christian faith to bear these successive blows with beoming fortitude. And, as the years passed on, the effects of the long mental and physical toil which he had borne so bravely, began to be keenly felt; and he suffered much from attacks of *angina pectoris*, that terrible and mysterious disease. Of one honour, which he would undoubtedly have preferred to any other, the Principalship of his University, he was deprived through the unworthy action of some of his colleagues. He felt it deeply, but it did not betray him into a single unkind expression. In 1869 he received the freedom of the city of Edinburgh.

Early in 1870 it was evident that Sir James Simpson's strength was giving way. He could no longer accomplish his work with the old elasticity; he was very easily fatigued, and it took him some time to recover; yet he desisted from none of his avocations. He was too busy a man to rest; his active mind was incapable of repose, until that repose came which will not be denied. On the 25th of February, after a visit to Perth to see a patient, he took to his bed. It was at once apparent that he was gravely ill, but he lingered on for several weeks, preparing for the end with a Christian's serene confidence. "How old am I?" he said one morning. "Fifty-nine? Well, I have done some work. I wish I had been busier." "I have not lived so near to Christ," he remarked, on another occasion, "as I desired to do. I have had a busy life, but have not given so much time to eternal things as I should have sought. Yet I know it is not my merit I am to trust to for eternal life—Christ is all." His last night but one on earth was spent in the company of his beloved brother, who sat on the pillow with Sir James's head on his knee, "hearing ever and anon throughout that night's silent watching, the touching words, soft, and low, and slow as if a weary, sick child spoke, "Oh, Sandy,

Sandy!" When the morning came, he was unconscious; and on the 6th of May his spirit passed into the Unseen Presence, with one great sigh, but without struggle or trace of pain.

Sir James Simpson was buried in Warriston Cemetery on the 13th of May. The funeral was in all respects a public one. It is computed that more than thirty thousand persons were present, either in the procession or as spectators; and the city wore everywhere the signs of a deep and sincere mourning.*

"Great in his art, and peerless in resource,
He strove the fiend of human pain to quell;
Nor ever champion dared so bold a course
With truer heart, or weapons proved so well."

SIR THOMAS WATSON, 1792-1882.

This able and accomplished physician, who lived to be "the Father" of the profession he adorned, was the eldest son of the late Mr. Joseph Watson, of Thorpe, Essex. He was born at Kentisbere, in Devonshire, on the 7th of March, 1792, and educated at Bury St. Edmund's Grammar School, previous to his entering St. John's College, Cambridge, in 1811. His University career was one of high promise. He took his B.A. degree and came out as tenth wrangler in 1815; and in 1818 graduated as M.A. Having been elected Fellow of his College, with the condition that he must either take orders or embrace the medical profession, he chose the latter alternative; and at the age of twenty-seven, entered St. Bartholomew's Hospital, where Abernethy was then the presiding spirit. During the session of 1820-21 he attended medical lectures at Edinburgh University, and in the following year received from Cambridge the usual licence to practise.

* Dr. J. DUNS, *Memoir of Sir James Y. Simpson, Lt.*, ed. 1873.

He took his M.D. degree in 1825, and in the same year married a wife, and settled down as a physician in Henrietta Street, Cavendish Square, where he continued to reside until his death, fifty-seven years later. In 1826 he was elected a Fellow of the Royal College of Physicians, and in 1827 one of the physicians to the Middlesex Hospital, holding that position until 1840. The solidity of the reputation he had already attained may be inferred from his appointment, when the University College was opened, to the Professorship of Forensic Medicine. In 1831 he removed to King's College as Professor of the Practice of Medicine, and in the same year a paper in the *Medical Gazette* initiated his frequent contributions to the periodical literature of the profession. In 1832 he attended Sir Walter Scott on that last melancholy journey of his—the return from London to Edinburgh on his way home to Abbotsford to die.

In 1836, Dr. Watson was appointed Professor of the Principles and Practice of Medicine at King's College, and began the delivery of those admirable lectures which were introduced in his great work. This work, "Lectures on the Principles and Practice of Physic," appeared in 1844, and immediately conquered the extensive popularity it has ever since retained. The rapid increase of his private practice compelled him in 1840 to resign his post at King's College, and in 1843 at Middlesex Hospital; and for the next twenty years he was, perhaps, the most extensively employed physician in London. In 1859 he was appointed one of the Queen's Physicians Extraordinary, and in 1866 was summoned to attend the Prince Consort during his fatal illness. He received the honour of a baronetcy in 1866. From 1862 to 1867 he officiated as President of the Royal College of Physicians. He afterwards retired from practice, and enjoyed a happy old age in the leisurely pursuit of professional subjects, until his death, on December 4, 1882, at his son's residence at Reigate.

"He laid no claim to genius," says one of his friends; "he made no great discovery. Though a scholar, he was not more learned—though a good speaker, he was not more eloquent—than many of his contemporaries whose names are now well-nigh forgotten; and yet he was by universal consent regarded as the completest illustration of the highest type of the physician. His moral as well as his intellectual qualities had much to do with the estimate which all formed of his character. His faculties were remarkably well balanced, his mind was eminently fine. . . . Take him in his teaching, all in all, he seems to me, more than any one I ever knew, to be the undoubted heir of England's greatest practical physician, Thomas Sydenham."

WILLIAM PULTENEY ALISON, 1790-1859.

Pathology has been defined as the science of disease as distinguished from Physiology, the science of health. It concerns itself exclusively with the morbid structure and functions of the body. "So long as disease," says Professor Greenfield, "was regarded as a sort of morbid entity, as the working of a spirit or evil humour which entered into the body and settled down upon and deranged the action of various organs, so long only could pathology be studied apart from morbid anatomy. We have gradually come to see that the derangement of function which we call disease is inseparably connected with an altered physical or chemical condition, which in many cases becomes obvious as a structural change, and that if we would understand the nature and course of disease, we must investigate the conditions of structure which underlie the outward phenomena. It is in this way that morbid anatomy, in its widest sense, has come to be inseparably linked with general pathology."

Morbid anatomy was a subject of study very early in the

history of medicine. We have seen that it engaged the attention of Hippocrates, though probably, long before his time, something may have been known of it in India. Pliny says that Erasistratus and Hierophilus both studied it. Aretæus investigated it with particular interest; but by Celsus it seems to have been ignored. Galen, however, studied it both practically and historically, and fully appreciated the extent to which structural change is sometimes associated with functional derangement. Nearly fifteen hundred years elapsed before the curious book of Bonetus, the "*Sepulchretum*," appeared (1679), in which some systematic attempt was made to connect the appearances in the dead body with disease in the living. Eighty years later J. B. Morgagni (1682-1771), Professor of Anatomy at Padua, gave to the world the first systematic work on Morbid Anatomy, "*De Causis et Sedibus Morborum per Anatomia Indagatis*," in which he endeavoured to indicate the relations between the physical changes that take place, and their effect in producing symptoms. He took the first step towards the establishment of a scientific pathology by attempting to localise disease.

Passing over the treatises of Lieutaud in 1767, and Ludwig in 1785, we come to Dr. Baillie's important work, "*On the Morbid Anatomy of some of the Most Important Parts of the Human Body*," 1799, in which nearly half of the illustrations were taken from specimens in John Hunter's Museum. Indeed, it is to the influence of that great surgeon that we may trace the revival of pathological science which occurred in the opening years of the present century. To anatomists is due the beginning and continuance of this revival movement. They were the most intimately concerned with the dissection of dead bodies, and a profound study of anatomy was necessarily a guide to changed as well as to healthy structure. It was in France that the systematic

application of anatomy, physiology, and pathology first took place, and amongst the men who promoted it must be named Bichât, Laennec, Andral, and Cruveilhier.

To Marie François Xavier Bichât (1771-1802) we owe the "*Traité des Membranes*" (1800), wherein he laid the foundation of that science of general anatomy or histology which, in the following year, he reared into a solid and broad-based structure in his "*Anatomie Générale appliquée à la Physiologie et à la Médecine*." The importance of studying the elementary tissues of the animal body, and their respective properties, had been recognized by more than one of his predecessors, though, as Mr. Buckle remarks, there was in their observations "that want of harmony and that general incompleteness always characteristic of the labours of men who do not rise to a commanding view of the subject with which they deal." But the bold and original genius of Bichât took this "commanding view," and constructed the framework of a scheme of physiology and pathology which later labourers have been engaged in filling up. He looked not only at the structure, but at the properties of the elementary tissues; and at these properties not only in the healthy state of the body, but when changed by disease.

Cruveilhier, the great anatomist, followed up Bichât's work with his learned "*Essai sur l'Anatomie Pathologique*," 1816, and his "*Anatomie Pathologique du Corps Humain*," 1829.

Réné-Théophile-Hyacinthe Laennec was born in 1781; studied under Bichât and Corvisart; and in 1816 was appointed physician of the Hospital Necker. His labours in pathological anatomy belong to the period 1804-1822. For three years he lectured on Morbid Anatomy in succession to Bichât. His attention had early been given to the use of percussion as a means of diagnosis in diseases of the chest; but one day (in 1815), while attending a patient in the hospital, desiring to

ascertain correctly the sounds of the heart, he was led to roll up a piece of paper in the form of a cylinder. This initiated his invention of the stethoscope, and to the uses and means of auscultation his labours, for the rest of his life, were directed. He died in 1826.*

Gabriel Andral, born in 1797, was another of Bichât's followers. He rose to distinction at an early age, and in 1816 gave to the world his "*Essai sur l'Anatomie Pathologique.*" In 1828 he was appointed Professor of Hygiene in the University of Paris, and in 1830 transferred to the Chair of Internal Pathology. He published in 1823 the first volume of his great work, "*Clinique Médicale,*" in which he succeeds in demolishing Broussais' theory of "physiological medicine," which represents the stomach as the centre and source of all disease. By a strange irony of fate, he succeeded Broussais, in 1839, as Professor of General Pathology. He published several valuable works on auscultation (he had been a pupil of Laennec) and the chemistry of the blood, upon which he made many interesting experiments. He died in 1876.

"That Andral was a diligent morbid anatomist, as well as a brilliant physician and pathologist, is shown," says Professor Greenfield,† "by a fact which he casually mentions, that he had examined the thoracic duct and principal lymphatic

* One of his pupils was Dr. C. J. B. Williams, who introduced the stethoscope into England, and in his "*Rational Exposition of the Physical Signs of Diseases of the Chest,*" suggested improvements in its use and construction. A third edition, under the title of "*The Pathology and Diagnosis of Diseases of the Chest,*" appeared in 1835. Dr. Williams was one of the founders of the Brompton Hospital for Consumption. His work on "*The Principles of Medicine*" is of high scientific merit. In 1846 he began the use of Cod Liver Oil in Pulmonary Complaints. It had previously been recommended by Dr. Hughes Bennett; but to Dr. Williams is really due the credit of making it popular as an efficacious remedy.

† *Address on Pathology, Past and Present*, delivered at the University of Edinburgh, October, 1881, by W. S. Greenfield, M.D., F.R.C.P., Professor of General Pathology in the University of Edinburgh.

vessels in more than 600 subjects. It was his especial merit that he was not content merely to record morbid appearances, but in every case sought to trace their causes, and to discover how they were related to each other, their order of causation and succession, and the part they played in the production of disease. From his time morbid anatomy has become not merely an observing and recording, but an interpreting science."

Among other French physicians who, in different ways, were furthering the progress of pathological anatomy and clinical medicine, we may name Bouillaud, Chemel, Gondrin, Louis, and Reynaud.

Meanwhile, the work in England was successfully carried on by Hope, Carswell, and Bright. Of Bright we have already spoken. Dr. Hope was one of the first to introduce and teach the method of auscultation. To him we owe the first correct explanation of the mode of production and localization of cardiac *bruits*. His earliest work in this direction was done when he was physician and surgeon in the Royal Infirmary of Edinburgh, 1824-25; but his treatise, "On Diseases of the Heart," was not published until 1832, when he was physician to St. George's Hospital. He brought out in 1833 a valuable "Atlas of Morbid Anatomy," which, however, was surpassed by that of Robert Carswell, produced in 1838.

We are thus brought down to the subject of the present sketch, the illustrious Alison.*

* Another great advance in pathology was made by the application of the microscope to vegetable and animal histology, which was first done systematically by Schleiden and Schwann; by Johannes Müller, Heule, Glüge, and Vogel. In the same direction worked Kölliker, Bowman, Professor Goodsir, and Dr. Sharpey. It is, however, from the date of Virchow's great work on "Cellular Pathology" (1858), in which he showed how the cell is "the vital unit of all organized structures, and how intimately its changes are associated with all the processes of

William Pulteney Alison, the son of the Rev. Archibald Alison, once well known as the accomplished author of an "Essay on the Nature and Principles of Taste," was born in Edinburgh in 1790. He received a careful education under his father's eye, and after making considerable progress in the usual classic studies, became a student of Medicine in Edinburgh University in 1806, and obtained his degree in 1811. During this time he acted as occasional secretary and assistant to his uncle, Dr. Gregory, who occupied the chair of Practical Medicine; and he continued to discharge these duties until his uncle's death in 1821. He had begun, however, his admirable lectures on Physiology as early as 1819, and in 1820 he was appointed Professor of Medical Jurisprudence and Police. In 1822 he was associated with Dr. Dumas as Professor of the Institutes of Medicine, and also held one of the clinical lectureships in the Royal Infirmary. In 1828 he was appointed sole Professor of the Institutes of Medicine; and it was for the use of his students that he drew up and published his "First Lines of Physiology," in 1830, and his "Outlines of Physiology and Pathology," in 1833. He succeeded to the professorship of Practical Medicine in 1832, and thenceforward delivered an annual course of lectures, marked by great vigour of thought and closeness of observation, until ill-health compelled his resignation in 1855.

"In lecturing on the different branches of medical science, first in a general course of institutes of medicine, including the elements of physiology, pathology, and therapeutics, and,

organic life, both in health and disease," that the new pathology really dates. The great name of Francis Glisson (born 1596, died 1677), one of the earliest of our anatomical physiologists, has been omitted from the above review. His "Anatomia Hepatis" was published in 1654. He was also the author of a treatise, "De Ventriculo et Intestinis."

afterwards, in the application of the two last branches to practice, Alison was of opinion that the present state of our knowledge admitted of their being taught in connection, not merely as linked together by the details of anatomical structure, but as forming a grand and important department of natural science—that indeed to which many other parts of natural science may be regarded as subordinate and subsidiary—the study of the living body as existing in health, as affected by disease, and as influenced by medicines; and that in accordance with the well-understood object in all the sciences, of tracing the phenomena included under each head up to certain ultimate facts or laws of nature, in this department of her works a more systematic form might be safely given to these sciences, than had yet been done by any author or teacher in this country. This accordingly was his object in his lectures and in his writings, and stamps him as one of the soundest and most original physiologists of his time.” He was, indeed, one of the first of British physicians to appreciate the importance of Morbid Anatomy in its relation to General Pathology.

Alison was an admirable teacher, and had the faculty of conveying that which he himself knew and understood in such a way as to make it easily known and understood by others. Among his more eminent pupils were Stokes—who says of him that “he was the best man I ever knew”—and Williams. He was a large-hearted man, with inexhaustible treasures of good-will and charity; and the condition of the poor was a subject that frequently engaged his thoughts. He published several pamphlets on this subject; among others, some very interesting and valuable “Remarks on the Report of the Commissioners on the Poor Laws of Scotland,” 1844.

Alison died at Edinburgh in 1859. His honours and professional distinctions were many. Oxford conferred on him

her honorary degree of D.C.L. in 1850. At one time he was President of the Royal Collego of Physicians. He was a Vice-President of tho Royal Society; Fellow, and formerly President, of the Medico-Chirurgical Society, Edinburgh; and Honorary Member of the Edinburgh Royal Medical Society, etc., etc.

CHAPTER VI.

CELEBRATED ENGLISH SURGEONS OF THE NINETEENTH CENTURY.

FROM every point of view Abernethy must be regarded as the Father of British Clinical Surgery, and has therefore a just claim to precedence in the brief biographical summaries of Eminent Surgeons to which this chapter will be devoted; though, chronologically, he might, perhaps, be more properly included among the professional worthies of the eighteenth century.

JOHN ABERNETHY, 1764-1831.

One of Abernethy's biographers, Mr. George Macilwain,* has enumerated some of the reforms in surgery which are due to that great man's initiative, and this enumeration will fitly precede the short sketch we shall attempt of his career.

"His application and adjustment of the operation of the trephine was," he remarks, "a beautiful and discriminating achievement, and would alone have been sufficient to have raised an ordinary reputation.

"His first extension of John Hunter's operation for aneurism shows how ready he was—when he could do so with advantage—to enlarge the application of that branch of our duties which he least valued—namely, operative surgery.

"His proposal to add to the treatment of the diseases of

* GEORGE MACILWAIN, F.R.C.S., *Memoirs of John Abernethy*, 2 vols., edit. 1853.

joints, the apparatus of splints for insuring absolute quiescence of the affected surfaces, has saved a most incalculable number of limbs from amputation.

“We have always thought that one of the greatest boons to mankind was Abernethy’s lesson on fracture of the neck of the thigh bone within the capsule of the joint. For thirty years Sir Astley Cooper taught, and boasted that he had taught, that this fracture could not unite by bone. . . . Abernethy’s reasoning led him to the opposite conclusion . . . that this fracture, though it required especial care to keep parts steady and in apposition, would unite just like other fractures.

“The bearing which Abernethy’s acuteness of observation of the influence of the state of the digestive organs on so-called specific poisons in producing or maintaining diseases resembling them, opposed as it was to the most powerful conventionalism, is a proof of his clear judgment; and, if we mistake not, will one day prove to have been the first ripple of a most important law in the animal economy. . . .

“His treatment of that severe malady, ‘lumbar abscess,’ is, in our view, a most splendid addition to humane and successful surgery, and as regards one of its distinctive characters, received the encomiums of the most distinguished of his contemporaries, including Sir Astley Cooper.

“The manner in which he applied that law which prevails in voluntary muscles to the replacement of dislocations—namely, that muscles under the influence of the will cannot ordinarily act long and unremittingly, was an amendment as humane as scientific; and whilst it has removed from surgery a farrier-like roughness in the treatment of dislocations as repulsive as unnecessary, it has adjusted the application of more sustained force, when it becomes necessary, on principles at once humane, safe, and effectual. In short, whatever part of surgery we consider, we should have something to say of

Abernethy—either something new in itself, or improved in application. We find him equally patient and discriminative wherever there is danger; thus there is the same force and originality in the occasional consequences of the simple operation of bleeding in the arm, and the more serious proceeding of perforating the cranium. He is everywhere acute, penetrating, discriminative, humane, and practical; so that it is difficult which most to admire, his enlarged views in relation to important general principles, or the pervading science and humanity with which he invests their minutest details.”

As a general practitioner he was not less eminent. His diagnosis was quick and exact; his treatment based on truly scientific principles. He was a determined enemy to the old system of depletion by lancet, pill, and potion, and relied greatly on regimen and diet. His leading hypothesis was that nervous disturbance was the essential element of disease; and that the removal of that disturbance was the essential element of cure. He taught, therefore, that nothing should be neglected which might, however remotely, influence the nervous system; and he held that no more powerful disturbers of the nervous system were to be found than derangements of the digestive organs; and that to strengthen and tranquillize them must be the physician's primary object in his endeavours to strengthen and tranquillize the nervous system.

As a lecturer Abernethy had never been surpassed down to his own time—hardly equalled. He was not only master of his subject, but knew how to convey his knowledge in an attractive and intelligible form. The vigour and clearness of his descriptions, the vividness of his illustrations, the happy turns of his phraseology, the terseness with which he embodied rules and principles, the comparisons and analogies—equally felicitous and striking—which he drew from the stores of a vast experience, made him one of the most delightful and successful of teachers. His originality of mind and force of

character impressed every hearer, in spite of his small stature, and of features which bore a humorous rather than a reflective expression.

In dealing with his patients he could, at need, be a very pattern of courtesy; but he had small toleration for hypochondriacal or affected patients; and sometimes, under the pressure of work or constitutional derangement, would be betrayed into a rough and irritable manner, even towards persons whose ailments were really serious. His exceeding proneness to plain speaking has led to many an anecdote being fathered upon him, with which he had not the slightest shade of connection. He has been made the scapegoat of wits and anecdote-mongers until it is difficult to recognize the stories of which he was really the hero. Everybody remembers his pithy advice to the *bon-vivant*, who was suffering from excessive self-indulgence: "Go and earn sixpence a day, and live upon it."

A gentleman, having recovered from a serious illness, was threatened with a renewal of it by the influence of the same causes. "He thought," said Abernethy, "that if he did not drink deeply, he might eat like a glutton." He lived in the country, and, one day, Abernethy ran down and dined with him. "Well," said Mr. Abernethy, "I saw he was at his old tricks again; so, being a merchant, I asked him what he would think of a man who, having been thriving in business, and amassed a considerable fortune, then went and risked it all in some imprudent speculation?" "Why," said the merchant, "I should think him a great ass." "Nay, then, sir," said Abernethy, "thou art the man."

"Mr. Abernethy," said a patient, "I have something the matter, sir, with this arm. There, oh!", making a particular movement with the offending limb; "that, sir, gives me great pain." "Well, what a fool you must be to do it, then," rejoined Abernethy.

Occasionally he met with a patient who could administer a useflesson. A lady who consulted him and found him discourteous, said: "I had heard of your rudeness before I came, sir, but I did not expect such treatment as this." When Abernethy gave her the prescription, she said: "What am I to do with it?"

"Anything you like. Put it in the fire, if you please."

The lady took him at his word; laid his fee on the table, threw the prescription into the fire, and hastily left the room. Abernethy followed her into the hall, anxious to return the fee or give another prescription; but the lady was inexorable, much to his pain and disgust.

An old fox-hunter used to abuse him roundly, because, almost the moment he entered the great surgeon's room, Abernethy exclaimed, on hearing that he suffered from stomach complaints, "I perceive you drink a good deal." "Now," said the squire, very naively, "suppose I did, what the devil was that to him?"

John Abernethy was born in Coleman Street, London, on the 3rd of April, 1764, exactly one year after John Hunter's migration to the metropolis. We may note that his first work, "Surgical and Physiological Essays," was published in the year of Hunter's death: so that while his birth occurred nearly at the same time as the beginning of Hunter's more elaborate investigations, his earliest contribution to science coincided with the close of his illustrious friend and predecessor's labours. After completing his preliminary education at the Grammar School of Wolverhampton, he was apprenticed, at the age of sixteen, to Sir Charles Blicke, one of the surgeons of St. Bartholomew's Hospital; and as he at the same time attended the lectures of Pott, John Hunter, and Sir William Blizard, then the most eminent surgeons in the kingdom, and was constant in his investigations in the dissecting-room, he speedily attained an extensive knowledge of his profession.

At the early age of twenty-two he was appointed Assistant-Surgeon to St. Bartholomew's Hospital, and soon afterwards received the lectureship of anatomy, physiology, pathology, and surgery, which at that period were all conjoined. Yet multifarious as was his work, he found opportunities for visiting every place where knowledge was to be gained, and never missed attending the lectures of John Hunter, whose enthusiastic disciple he was, and whose mantle may be said to have devolved upon him. His own lectures continued to attract a larger and larger class, until it became difficult to provide accommodation for them, and the Governors resolved on building a regular theatre within the Hospital, which was completed in 1791.

In 1804 he published a compendium of his physiological views and principles of practice under the title of "*The Constitutional Origin of Local Diseases*"—which came to be popularly known as "*My Book*," from his frequent reference of his patients to its pages for details and particulars unfitted for the consulting-room. It contains a good deal of sound sense, graphically and forcibly expressed. As not a few of its statements were offensive to the rigid medical orthodoxy of the time, it came to be much talked about, went through several editions, and set the current of fashion towards its author, who soon found himself with a large and lucrative practice; so large indeed that it was almost beyond management. In 1813 he accepted the surgeoncy of Christ's Hospital—which he held until 1828, shortly before he retired from active life; in the following year he was appointed Professor of Anatomy and Surgery to the Royal College of Surgeons; and in 1815, Surgeon to St. Bartholomew's.

In 1817, all this work began to tell upon him, and he relieved himself of a portion of it by resigning his Professorship at the College. Ill health, however, troubled him with increasing frequency, and in 1827, feeling unable to bear any

longer his responsibilities, he withdrew from the surgeoncy of St. Bartholomew's, with which he had been connected for upwards of forty years. In 1829 he finally retired from practice, and sought repose in his pretty rural residence at Enfield, where he died, with the utmost tranquillity, on the 20th of April, 1831. He was buried in the parish churchyard, where his epitaph speaks of him—with greater truth than epitaphs generally exhibit—as one who “ingenio, probitate, benignitate, eximie præditus, Artem Medicam per annos plurimos summâ cum diligentia solertiâ, felicitate coluit, exercuit, docuit, auxit et scriptis hoc marmore percurioribus posteritati tradidit.”

SIR ASTLEY PASTON COOPER, 1768-1841.

This eminent surgeon—one of the most brilliant “knights of the lancet” whom England has produced—unsurpassed perhaps, in the ease and dexterity, the coolness and resource, with which he executed the most difficult operations, and equalled but by few in his thorough mastery of the principles of surgical science—was born at Brooke, in the county of Norfolk, where his father was curate, on the 23rd of August, 1768. His mother was popular in her day as the authoress of several works of fiction, and the advocate of what have since been known as “Woman's Rights.” Astley, in his boyhood, showed neither the religious bias of the one parent, nor the literary tastes of the other. He was, on the contrary, disinclined to study, and loved open-air amusements, feats of dexterity and strength, and boyish adventures, which were sometimes of a hazardous character. He would seem to have been determined towards the surgical profession by one of those so-called accidents which so often make or mar a life. One of his companions having had the misfortune to burst a blood-vessel, Astley saved him from bleeding to death by binding a tight bandage over the upper part of the limb. In August,

1784, the future operator was sent to London, and bound apprentice to his uncle, Mr. William Cooper, one of the surgeons of Guy's Hospital; but he remained with him only three months, being transferred at his own request to Mr. Cline, the celebrated surgeon of St. Thomas's Hospital. At the same time he attended the lectures of John Hunter, of whom he became almost as loyal a follower as his contemporary, Abernethy.

In 1787 he went to Edinburgh, with the view of extending his range of professional knowledge. He was admitted a member of the Medical Society, and made a strong impression by his exceptional capacity. On his return to London he was appointed demonstrator of anatomy at St. Thomas's Hospital; and in 1791 was allowed to co-operate with Mr. Cline in the lectures then delivered on anatomy and surgery. His first class numbered fifty students, but it soon increased to four hundred, the largest ever known in London. This extraordinary success was due to the clearness and dexterity of his demonstrations, and his address in the dissecting-room. In 1799 he visited Paris, and attended the lectures of Desault and Chopart. He witnessed the outbreak of the Revolution on the 10th of August, but contrived to make his way back to England.

In the same year he commenced practice as a surgeon, and soon rose into a wonderful popularity, so that he is said to have received larger fees for special operations than had ever before been known in the profession. As a lecturer he was not less successful, though there was at that time very great difficulty experienced in obtaining, by legitimate means, "subjects" for the dissecting-room; and many curious stories are told of Cooper's relations with the Resurrectionists, and of the ingenious stratagems adopted for the conveyance of their ghastly burdens into the great surgeon's lecture-theatre. In 1800, on the death of his uncle, he was appointed Surgeon to Guy's Hospital; and in this and the following year read two

papers before the Royal Society, for which he obtained the Copley gold medal. In 1805 he was elected a Fellow of the Royal Society; and took a very active and influential part in the establishment of the Medico-Chirurgical Society.

Among the most difficult of the operations which he attempted was that of tying the carotid artery in aneurism. He did not succeed; but he pointed out the way to success to futuro operators.

In 1804 he published the first part, and in 1807 the second part, of his great work on Hernia—the most exhaustive treatise on this subject in English. It added considerably to his professional reputation, and the extension of his practice was so great that his income in 1813 rose to the extraordinary total of £21,000—a total which, we suppose, no medical practitioner has ever exceeded. It was in this year that he accepted the professorship of Comparative Anatomy—for which his extensive dissecting operations had well fitted him—to the Royal College of Surgeons.

In 1817 he attempted, though again unsuccessfully, another exceedingly bold experiment, the tying of the aorta. In 1820, having been called in to attend George IV., he removed from the King's head a steatomatous tumour, and was rewarded with a baronetcy. In 1822 he was elected one of the Court of Examiners of the College of Surgeons, in which position he discharged his duty faithfully, but with an urbanity and a sympathy which secured him the respect and esteem of the candidates, who, under the old régime, had been subjected to a good deal of bullying and of discourteous treatment. It was in this year that he published his *chef-d'œuvre*, "On Dislocations and Fractures." In 1827 he became President of the Royal College of Surgeons; but the grief occasioned by the loss of his wife induced him to retire from practice to his estate at Gadesbridge. Poignant as was his regret, it did not last very long. He returned to the

activity of London in 1828, took a second wife, was appointed Sergeant-Surgeon to the King, and resumed his professional duties. In 1829 he published the first part of a work on "The Anatomy and Diseases of the Breast," which he completed in 1840. In 1832 his treatise on "the Thymus Gland" attracted much attention. In 1834 the University of Oxford bestowed upon him the degree of D.C.L.; and visiting Edinburgh in 1837, he was made an LL.D. of that University, and also received the freedom of the city. He outlived the reception of these honours less than four years, dying on the 26th of February, 1841, in the seventy-third year of his age.* A statue to his memory, by Bailey, was erected in St. Paul's Cathedral—an honour which his illustrious contemporary, Abernethy, a man of much more original mind, and of wider medical knowledge, has not yet received.

A year before Sir Astley Cooper, though his junior by six years, died another eminent surgeon—not so brilliant as an operator, but incomparably greater as a physiologist—the founder, in fact, of all our knowledge of nervous physiology by his discovery of the respective functions of the anterior and posterior roots of the spinal nerves, and by his doctrine of the distinct function of each individual fibril, in virtue alike of its central and peripheral connections—

SIR CHARLES BELL, 1774-1842.

An outline of his views on the Nervous System of the Human Body will properly precede our sketch of Sir Charles's career.

We know the functions with which Providence has charged the brain and nervous system, but we do not know

* B. B. COOPER, *Life of Sir Astley Cooper*, 2 vols., edit. 1843.

exactly how they are fulfilled. This has been a favourite subject of inquiry for ages, but the inquiry has yielded no satisfactory results. The brain has been dissected with the minutest care; each individual portion has been examined, and to each an attempt has been made to assign its particular duty. Three thousand years ago it was dissected by Democritus, Anaxagoras, and other illustrious veterans, and at the end of this long period of human history we can say no more of it—of this mysterious organ placed on the doubtful boundary of the material and spiritual world—than our forefathers, who declared it to be “the fountain and the reservoir, the beginning and the end, of the whole nervous system, where every idea originates, and to which every sensation is referred.” But the opinions held by the ancients as to the nature and uses of the nervous system were largely erroneous. They applied the term “nerve” to tendon and ligament and blood-vessel. Hippocrates taught that the nerves terminated in the bones and muscles, and in this way produced voluntary motion. Hierophilus, who seems to have been the first to discover the relation between them and the brain, considered them to be the instruments of sensation. Erasistratus made a distinction between the nerves of sensation and the nerves of motion, and held that the former originated from the brain, but the latter from the membranes. Galen believed that those of motion sprang from the spinal cord. It was not until later times that the examination of the brain and the nervous system began to yield any data of value.*

One of the chief of recent discoveries consists in having detected the origination of the nerves to be generally in pairs, and thus forming anterior groups, with an ascending, and posterior groups, with a descending, direction. This structure is very evident in the spinal cord; and it is to be observed that no union of the fibres of the two groups occurs,

* PETTIGREW, *Biographical Memoirs of Physicians, etc.*, i. 16, 17.

until the posterior has formed a knot or enlargement (*ganglion*, to use the technical term). Nerves belong either to the *cerebrum*, *cerebellum*, *medulla oblongata*, or *medulla spinalis*; and are distributed to the organs of sense, the muscular system, and the vessels: hence, they have been described as the nerves of the senses (afferent or sensory nerves), vital and involuntary nerves, and motor or efferent nerves (or nerves of voluntary motion). Now, various physiologists, from Galen downwards, had suspected that the nervous fibres which ministered to *sensation* and to *motion* respectively, might be distinct, though bound up in the same trunks; and Dr. Willis* had pointed out, in the seventeenth century, that certain of the nerves of the head are exclusively sensory, and others exclusively motor; yet no one had thought of subjecting this idea to the test of experiment, or had conjectured that the anterior and posterior roots of the spinal nerves performed different functions, until Sir Charles Bell entered upon the inquiry.

It was then the received doctrine that the *cerebrum* was the organ of sensation and of voluntary motion, and the *cerebellum* of the vital and involuntary motions; and his original idea of the relative functions of the anterior and posterior groups of the spinal nerves was, that the former were structurally connected with the *cerebrum*, through the anterior portion of the spinal cord, and assisted it to discharge its functions, and that the latter were similarly connected with the *cerebellum*. Experiment confirmed this conjecture only to a certain extent, namely, that when the anterior nerves

* Dr. Thomas Willis, of Oxford, born 1621, died 1675. He was one of the first Fellows of the Royal Society. His principal works are: "*Cerebri Anatomi*," 1664; "*Pathologia Cerebri et Nervosi Generis Specimen*," 1667; "*Affectionum quæ dicuntur Hystericæ et Hypochondriacæ Pathologia Spasmodica*," 1670; and "*Pharmacutico Rationalis*," 1674.

were irritated, movements took place in the voluntary muscles. The office which he assigned to the posterior nerves fully accorded, however, with the then received idea that their ganglia were intended to "cut off sensation," so that impressions upon the apparatus of organic life might not be felt. Though in this primary conjecture Bell has been proved in error, yet his mode of investigation by experiments on the roots of the nerves was a great step in advance, and furnished him with the means of correcting his original views, and of accomplishing his great discovery. There is ample evidence, as Dr. Carpenter says, that, between 1812 and 1821, Bell's experiments had led him to adopt *the* conclusion, that the anterior roots of the spinal nerves are subservient to *motion*, and the posterior to *sensation*, respectively; the motor and sensory *fibrillæ* being essentially distinct, though bound up in the same trunks and branches, and having different terminations, both in the central organs whence they radiate, and in the peripheral parts to which they extend. As the nerves of the head afforded special facilities for testing the truth of this conclusion, Bell gave to them his special attention; and having formed the idea that the nerves of respiration and expression proceeded from a distinct tract in the *medulla oblongata*—an extension of the spinal cord, lying within the cranial cavity—the first memoir which he submitted to the Royal Society did not develop his fundamental discovery, but was chiefly devoted to an examination of the respective functions of the fifth and seventh pairs of cranial nerves. In this memoir the analogy of the *fifth* pair to the spinal nerves, in virtue of its two sets of roots, and of the ganglion upon the larger (sensory) root, is clearly indicated, and it was shown by experiment to be a nerve of double function. Bell was unacquainted, however, with the fact which previous anatomists had ascertained, "that the fibres proceeding from the smaller (or motor) root are distributed

only to the third of the three principal divisions of the nerve, so that the first and second divisions, which are distributed to the upper part of the face and head, are exclusively sensory; while the third, which is alone possessed of motor as well as sensory endowments, is limited to its distribution to the muscles of mastication." But the experiments of Majendie* and Mayo† supplied the necessary correction.

With regard to the functions of the *seventh* pair, Bell maintained (as Willis had done) that it was essentially motor; but he thought that its motor action was confined to bringing the muscles of the face into co-operation in the respiratory function, and to exciting the movements of expression. Here he has been proved in error by later research; the seventh pair being the ordinary motor nerve of the face, and the movements of respiration and expression being only particular modes of its general action.

Bell's subsequent labours on the nervous system were directed to the confirmation and extension of his doctrines, both by anatomical research, experimental inquiry, and pathological observation. "He successfully demonstrated the cause of the sensory and motor tracts ascending from the spinal cord to enter the brain, and showed how roots of the cranial nerves are connected with one or the other, or with both, according as they are exclusively sensory, or exclusively

* François Majendie, born at Bordeaux in 1783, died at Paris in 1855, is one of the greatest physiological authorities. His experiments confirmed the accuracy of Bell's theory of the twofold nature of the nerves. His chief works are: "*Précis Élémentaire de Physiologie*," "*Leçons sur les Phénomènes Physiques de la Vie*," and "*Leçons sur les Fonctions et les Maladies du Système Nerveux*."

† Herbert Mayo, died in 1852, was at one time Professor of Comparative Anatomy to the Royal College of Surgeons, and afterwards Professor of Anatomy and Physiology in King's College. Adopted hydropathy in later life, and became physician to a hydropathic establishment at Bad-Weilbach, near Mainz. His best book was the "*Outlines of Human Physiology*."

motor, or of mixed endowments. Ho attempted also to show that the anterior and posterior portions of the spinal cord have endowments corresponding with those of their nerves, but this conclusion, though at first generally accepted, has been rendered more than doubtful, both by the results of experiment and the phenomena of disease. Under the title of the 'Nervous Circle,' he developed, more fully than had been previously done, the importance of 'guiding' sensations in all voluntary movement; these sensations being usually derived from the muscles themselves, but being replaced by those of some other kind (as sight) when the 'muscular sense' (which he considered to be a peculiar form of sensation different from ordinary touch) is deficient."

"In this curious and intricate field of research," says Dr. Pittigrew, "the labours of Sir Charles Bell will always stand pre-eminently distinguished. His various Essays on the Nerves of the Face, and his illustrations of those nerves under disease, are of the highest importance and deepest interest. They require minute attention, inasmuch as they lead to practical distinctions between local disorders of the nerves, and apoplectic conditions of the brain, with which they have been too frequently confounded. Sir Astley Cooper, with his characteristic candour and liberality, was, I believe, the first to acknowledge the high value and importance of these researches; and Baron Cuvier, on his death-bed, when conscious that his face was twisted to one side, remarked to his attendants, that it afforded another proof of the truth and accuracy of Sir Charles Bell's opinions."

The Essays, eleven in number, in which these are stated, were read to the Royal Societies of London and Edinburgh; and for some of the earlier papers, Bell received from the Royal Society its gold medal.

Sir Charles Bell was born in Edinburgh in 1774. Ho was the youngest son of the Rev. William Bell, a clergyman of the

Episcopal Church of Scotland, and was educated at the Edinburgh High School, an institution which has had the good fortune to produce an unusually large number of celebrated men. Losing his father while he was yet in his childhood, he did not enjoy the same educational advantages as his elder brothers—John Bell, the surgeon, Robert and George Bell, the lawyers; but, as he himself was wont to say in later life, his education was the example which they set him. At an early age he adopted the medical profession, studying anatomy under his brother John, with great success. In 1799 he was admitted a member of the Edinburgh College of Surgeons, and immediately afterwards, as one of the surgeons of the Royal Infirmary. It has justly been said that the surgeon requires the eye of an eagle, the hand of a lady, and the heart of a lion. Bell possessed these three rare gifts—rare, at least in combination—and soon acquired repute by his extraordinary skill as an operator. This repute he maintained throughout his later career, and Roux, the great French surgeon, happily said of him that he performed his operations “*avec grâce, sans affectation.*”

A controversy springing up among the Edinburgh surgeons which led to the formation of two parties, under the leadership respectively of John Bell and Dr. Gregory,* Charles Bell, who had no taste for professional partisanship,

* James Gregory, born 1753, died 1820, was for many years professor of medical practice at Edinburgh University. Author of the “*Conspectus Medicinæ Theoreticæ.*” His father, born 1724, died 1773, was also a distinguished physician, and, alternately with Cullen, lectured on the practice and theory of medicine. He wrote “*Lectures on the Duties and Qualifications of a Physician,*” and “*A Father’s Legacy to his Daughters.*” James’s son, William Gregory, maintained the scientific reputation of the family (which dated from James Gregory, 1638–1675, the inventor of the reflecting telescope) as professor of medicine and chemistry—in the latter department making some valuable discoveries. He was born in 1803, and died in 1858.

removed to London, where he met with the proverbial good fortune of Scotchmen. The lecture-rooms of the metropolis were then occupied by men of such distinction and influence as Cline, Abernethy, and Astley Cooper, but as a teacher of anatomy and surgery he contrived to hold his own, and worthily maintained the celebrity of the great anatomical school of Great Windmill Street, which the two Hunters first made illustrious. "His mode of lecturing," we are told, "was admirably adapted to sustain the interest of the pupils. Even while engaged in repeating his demonstrations so as to make them intelligible to the students seated in the different quarters of the lecture-room, he always contrived, by slight variations in expression, or in the mode of illustration, to fix the attention of his auditors, and to impress his meaning in a manner wholly unattainable by a lecturer who confines himself to a monotonous repetition of what he has already said. His style of lecturing, when he had ceased to demonstrate from the subject before him, partook, indeed, more of the nature of animated and close reasoning, delivered by a person intent on carrying conviction to the minds of his hearers, than of those uninteresting details of minute facts, which too often render lectures on anatomy vapid and intolerable to the student."

In 1812, by which time Mr. Bell's position in London was firmly established, he was elected one of the surgeons to the Middlesex Hospital, which office he held until his return to Edinburgh in 1836. It was about this time that his investigations of the physiology of the nervous system began to draw the attention of the scientific world; but it was not until 1821 that his views were completely formulated in the memoirs which he submitted to the Royal Society.

Meanwhile, he applied himself to the improvement of his art, as well as to its practice. He had been interested in various questions of military surgery, and had carefully examined the wounded soldiers who returned from the Penin-

sular War. After the Battle of Waterloo he hurried to Brussels, and volunteered to take charge of one of the military hospitals, where, for three days and nights, he was uninterruptedly engaged in dressing wounds and operating on the wounded, attending in all to no fewer than three hundred men. An "Essay on Gun-shot wounds" forms an appendix to his "System of Operative Surgery."

In 1824 he accepted the senior Professorship of Anatomy and Surgery in the London College of Surgeons; and his lectures, which specially called attention to the evidences of Creative Wisdom and Design afforded by anatomical researches, were afterwards published, with additions, under the title of "Animal Mechanics." Two years later he was admitted a Fellow of the Royal Society. On the accession of William IV. he received the honour of knighthood. About the same time he was selected to write one of the celebrated Bridgewater Treatises;* and chose for his theme "The Mechanism and Vital Endowments of the Hand, as evincing Design"—a very charming work, which has not as yet lost its popularity or value, though teleological evidence is not estimated as highly as it was wont to be. He afterwards co-operated with Lord Brougham in reproducing Paley's "Natural Theology."

In 1836 Sir Charles accepted the offer of the surgical chair in the University of Edinburgh, and his first course of lectures was attended by nearly all the surgical students of the northern capital. But, before long, he discovered that neither as a teacher nor a practitioner of surgery would his Edinburgh competitors allow him the foremost rank to which he felt he was entitled, and his later years were clouded by many anxieties. These did not impede his diligence: he published,

* The Earl of Bridgewater, in 1829, left £8000 in trust for the purpose of awarding the author (or authors) of a Dissertation on the Power, Wisdom, and Goodness of God, as manifested in the Works of His Creation. Eight essays were written, each author receiving £1000.

in 1838, "Institutes of Surgery," a text-book for his class, and sedulously prepared a new and much improved edition of his "Essays on the Anatomy of Expression in Painting"—an elegant and interesting work, of the contents of which no artist should be ignorant.

Sir Charles Bell died on the 27th of May, 1842, at Hallow Park, Woreestershire, on his way to London, of an attack of *angina pectoris*.*

In her "History of the Peace," Harriet Martineau observes that "had not great discoveries become more common with every century, the present would be as much distinguished by the fame of Sir Charles Bell as the seventeenth is by that of Harvey. Harvey proved the circulation of the blood, and was believed by no physician in Europe who was above forty at the time of his death. Sir Charles Bell discovered the diversities which exist in the structure and functions of the nerves; and his demonstrations of the fact were so clear, and the consciousness of ignorance has so far extended in our more enlightened age, that the only dispute which occurred was as to who ought to appropriate the honour of the discovery. It is settled, past all controversy, that the honour belongs to Sir Charles Bell. He has pointed out to us that we have, bound up in the same sheath, nerves of sensation and nerves of motion, and, as he believed, nerves for other functions also; and it would be a bold thing to say that any discovery in connection with our mysterious human frame was ever more important in itself, or more fraught with future significance. Sir Charles Bell did many more things during his active and devoted life; but it is this which gives him a high place in the history of his country."

His principal works are—"The Hand, its Mechanism and Vital Endowments," 1837, 5th edit., 1852; "Nervous System

* DR. A. PICHOT, *Life and Labours of Sir Charles Bell*, ed. 1860.

of the Human Body," 1814; Dissertation on Paley's "Natural Theology," 1836-38; "Anatomy and Philosophy of Expression, as connected with the Fine Arts," 1847; Letters Selected from his Correspondence with his Brother, 1870.

[A word or two must here be said about Sir Charles's elder brother, John Bell, a man of undoubted capacity, but possessing too much of the *præfervidum ingenium Scotorum*. He was born at Edinburgh on the 12th of May, 1763. His father, just before his birth, having been much relieved by a surgical operation, resolved, out of gratitude, to devote his son to the surgical profession. He was educated at the Edinburgh High School, and thence went to the University, where he studied under Black,* Cullen, and Monro.† His original and independent mind soon opened up a field of activity, and building an anatomical theatre and lecture-room, he gave lectures there on anatomy in conjunction with surgery, which gathered round him a large company of admiring disciples, and provoked the opposition of numerous enemies. He was probably as well pleased with the latter as with the former. In 1793 he published the first volume of his *magnum opus*, "The Anatomy of the Human Body," containing a description of the bones, the muscles, and the joints. The second volume, published soon afterwards, contained an account of the heart and arteries. The third was the work of his brother, Sir Charles, and was devoted to the nervous system.

John Bell's works on surgery, written with great lucidity

* Joseph Black, the discoverer of the doctrine of "latent heat," born in 1728, died in 1799.

† Alexander Monro, an eminent anatomist, who first traced out in the brain the "foramen of Monro," and the ultimate distribution of the auditory nerve. Born, 1732; died, 1817. His father, Alexander Monro, 1697-1767, was one of the founders of the medical school of Edinburgh, and author of treatises on "Osteology" and "Anatomy of the Nerves."

and freshness, gave him an eminent and influential position. He was the first to indicate the importance of the free anastomosis amongst the human arteries when the prime trunk of an artery happens to be injured. He showed how this fact bore upon practical surgery in his "Discourses on the Nature and Cure of Wounds." His next great work was his "Principles of Surgery," in three volumes, a new edition of which was brought out by Sir Charles Bell in 1826. It is still a standard authority, and no young surgeon should fail to consult its carefully reasoned and instructive pages. In 1810, this man of genius published his telling "Letters on Professional Character and Education." He was too much of a reformer, however, for his colleagues, and for the majority of his professional brethren in Edinburgh; and for many years was involved in controversy, and beset with a virulent opposition. He had no respect for tradition or theory; all he dealt with was the evidence of facts, and the conclusions which they suggested and supported; and as the medical profession, like every other profession, is intensely conservative and cherishes an almost fanatical reverence for authority, this energetic, restless innovator confused and alarmed the bigoted and timid minds around him. Ill health compelled him at last to undertake a visit to Italy, but on arriving at Rome, he became suddenly worse, and died of dropsy on the 15th of April, 1820. After his death, in 1825, his widow edited a record which he had kept of his Italian travel, under the title of "Observations on Italy."]

SIR HENRY HOLLAND, 1788-1873.

Sir Henry Holland did nothing for the improvement of his art; his name is associated with no brilliant discovery; and yet, as the type and model of the physician of the aristocracy—of the courtly, cultured, and refined physician, to whom a

knowledge of the world is not less necessary than extensive professional knowledge—he deserves a niche in our gallery of portraits.

He was born on the 27th of October, 1788, at Knutsford, in Cheshire. He was the son of a highly respectable general practitioner, a great nephew of Josiah Wedgwood, and a cousin of Mrs. Gaskell, the novelist. His early education he received at a private school at Knutsford; afterwards he was sent to Newcastle-on-Tyne; from 1802 to 1803, to Dr. Estlin's, at Bristol, where one of his schoolfellows was Richard Bright, the future physician; and finally to Dr. Aikin's celebrated academy at Stoke Newington, where he profited by the literary society which gathered round the Doctor's sister, Mrs. Barbauld, and his daughter, Miss Lucy Aikin. At this time his tastes inclined towards a commercial career, and he was articled to a Liverpool merchant, but with the understanding that he was to pass two sessions at Glasgow University. The second session convinced him that he had wronged himself in his premature decision, and having sought and obtained a release from his articles, he began to study for the medical profession.

Among his associates was William, afterwards Sir William, Hamilton, and the two students talked much and oft of high metaphysical subjects, discussing things human and divine with the ardour and self-confidence of youth. No doubt in this way his literary taste was developed. Its first outcome was a Report on the Agriculture of Cheshire for Government, for which he received the substantial sum of £200. In October, 1806, he entered at the Edinburgh Medical School, and in 1811 took his degree of M.D. at the Edinburgh University. That love of travel which became the predominant passion of his life asserted itself as early as 1810, when he accompanied Sir George Mackenzie and Richard Bright on an expedition to Iceland. After taking his degree, as he was too young to be

admitted to the College of Physicians, he undertook a prolonged tour on the Continent, visiting Portugal, Spain, Sicily, the Ionian Isles, Greece, and some parts of Turkey. On his return, he published a narrative of his travels, which met with much acceptance.

Already his fine manners, his conversational talents and his professional culture had assured him a good position; and in 1814 he attended the Princess of Wales on a tour through Germany, Switzerland, and Italy. In the following year, after the battle of Waterloo, he paid a short visit to France and Holland. He then settled down as a physician in London. But his professional engagements were never allowed to interfere with his yearly holiday of foreign travel. In the series of these annual journeys, to which the two autumnal months were usually devoted, he visited every single European capital (most of them repeatedly); made eight voyages to the United States and Canada, travelling over more than 26,000 miles of the American Continent; one voyage to Jamaica, and other West Indian Islands; was four times in the East, visiting Constantinople, various parts of Asia Minor, Damascus, Jerusalem, and Cairo; made three tours in Algeria, two journeys in Russia, several in Sweden and Norway, repeated visits to Spain, Portugal, and Italy, a second visit to Iceland, voyages to the Canary Isles, Madeira, Dalmatia, besides other excursions which it would be tedious to enumerate.

“When first settling in London,” he says, “I was menaced by the opinion, coming to me from friends, and not without justification from prior experience, that this scheme of annual travel would be injurious to me professionally. I have in no way found it so. Had I not been attached to my profession, and had it not happened that my practice lay chiefly among the classes who are absent from London in the autumn, the result might have been different. But my early resolution as to this matter of travel, steadily persevered in,

has proved a gain to me through all succeeding life. I have come back each year refreshed in health of body and mind, and ready for the ten months of busy practice which lay before me. On the day, or even hour, of reaching home from long and distant journeys, I have generally resumed my wonted professional work. The new methods of inter-communication since steam and electricity have held empire on the earth, often enabled me to make engagements for the very moment of my return. I recollect having found a patient waiting in my room when I came back from those mountain heights—not more than 200 miles from the frontiers of Persia—where the 10,000 Greeks uttered their joyous cry on the sudden sight of the Euxine. The same thing once happened to me in returning from Egypt and Syria, when I found a carriage waiting my arrival at London Bridge, to take me to a consultation in Sussex Square; the communication in each case being made from points in my homeward journey. More than once, in returning from America, I have begun a round of visits from the Euston Station."

In a life like Sir Henry Holland's the personal incidents are necessarily few. He met with no romantic adventures; was the hero of no startling episodes. It would be difficult to find a career with a more prosperous and agreeable record. A lucrative practice almost forced itself upon him. He had been settled in London only four years, when his annual income exceeded £1200. It continued to increase, apparently without any effort on his part; until, with a wise moderation, he could make up his mind to restrict it to £5000, so that he might reserve sufficient leisure for his books and his favourite travel. He gained a considerable reputation as a man of letters, though his compositions show good sense and amenity rather than any special literary talent. He enjoyed a wonderful good health, physical and mental, throughout his life, which went far beyond the Psalmist's span. He kept

"the best of company"—princes and peers, artists and savants, wise men and wits; and seems to have been always welcome everywhere. He had seen much of men and manners, so that he talked well, and as he was gifted with a rare prudence, he did not talk too much. He liked a good dinner, and did not find fault with those of his friends who liked a good dinner also; but he kept well within the bounds of a discreet temperance. Even in his travels, the same good fortune attended him that attended him in all the affairs of life—he was never wrecked, or robbed by brigands, or detained by *douaniers*, or shaken in railway collisions—the gods smiled upon him benignly wherever he directed his steps. He was fortunate in his marriages; both his wives—the first, a Miss Caldwell, who died in 1830; the second, Saba Smith, the daughter of the great humourist—were accomplished and amiable women. He was fortunate in his two sons, each of whom has proved himself a man of ability and character. He was fortunate in his death, which took place suddenly and painlessly on his eighty-fifth birthday. Three days before he had been present at the trial of Marshal Bazaine at Versailles, and dined at the British Embassy at Paris! He was fortunate in worldly distinctions. He was made physician-extraordinary to the Queen in 1837; physician-in-ordinary to the Prince Consort in 1840; physician-in-ordinary to the Queen in 1852; and a baronet in 1853.* Am I not right in saying that it would be difficult to find a record more prosperous or more agreeable?

A man could not attain such exceptional good fortune without possessing many good qualities; and yet it is not easy to say what they were. He made many friends, yet does not seem to have been capable of strong or earnest friendship; and, indeed, strong passions or deep feelings of any kind were not

* He was also President of the Royal Institution; a Fellow of the Royal Society; and a D.C.L., Oxon.

his *métier*. Perhaps, it was this very equanimity which was his special charm. His professional merits we are hardly prepared to estimate. They do not appear to have been valued very highly by his brother-practitioners—which, perhaps, is not so remarkable a thing, after all. There is a story told—by the late Mr. Hayward, I believe—to the effect that, during a serious illness of Lady Palmerston, to one of her friends, inquiring anxiously about her of her attendant, Dr. Fergusson, “I can’t give you a better notion of her recovery,” he replied, “than by telling you that I have just received my last fee, and that she is now left entirely to Holland.” But a man who for five-and-forty years enjoyed one of the best practices in London cannot have been ignorant or incompetent, though he was no great clinical teacher, and did not, like Bright or Addison, associate his name with a disease. I suspect he was well skilled in the maladies of fashionable life, and better fitted, perhaps, than better physicians to deal with the ailments of the class of patients which kept him continually busy. And it is but fair to say that in his “Medical Notes and Reflections” one may see signs of originality of thought and closeness of observation, which induce one to believe that, under different conditions, Holland might have attained to high professional distinction, and—considerably shortened his long and tranquil life.

He will, most probably, be remembered for awhile by his “Recollections,”* though they are provokingly deficient in personal interest. For while he professes to tell us of the great men he attended or met with, he is so excessively discreet and reticent that the information he gives adds little, if at all, to our previous knowledge. Still, it is a book with a good deal of quiet interest about it, and bears the impress of a cultivated, observant mind—quick to catch the superficial aspects of life and society, if not very ready or acute, perhaps,

* SIR HENRY HOLLAND, *Recollections of Past Life*, 2nd edit., 1872.

not at all eager, to look below the surface. There is little in it that bears with any degree of closeness upon the main subject of these pages, but one or two extracts may be agreeable to the reader, and may help him to understand, so far as is necessary, Sir Henry's professional status:—

"In February, 1827," he says, "I was called down to Brighton to see Mr. Canning, then suffering under very severe illness, the effect, I cannot doubt, of midnight exposure at the funeral of the Duke of York in the depth of winter. On my return to London I hastened to Lord Liverpool, to report to him on what he himself strongly expressed to me as a matter vital to his Government. Having satisfied his inquiries as to Mr. Canning, he begged me to feel his own pulse—the first time I had ever done so. Without giving details, I may say that I found it such as to lead me to suggest an immediate appeal to his medical advisers for careful watch over him. The very next morning Lord Liverpool underwent the paralytic stroke which closed his political life. His pulse alone had given me cause for alarm; but there were one or two passages in our half-hour's conversation so forcibly expressing the harassing anxieties of his position, that I could hardly dissociate them from the event which thus instantly followed."

Referring to his hypothesis, in "Medical Notes," regarding the nature and manner of Indian Cholera, he says:—
"Having studied with much interest and some care the history of this extraordinary disease, in its successive epidemic forms and modes of migration over the earth, I have arrived at the conviction that its phenomena can no otherwise be explained than by looking to organic life, animal or vegetable (more probably, as I think, the former), as the source, the actual *virus*, which, *reproducing itself* (a point essential to the argument), gives origin, diffusion, and direction to the disease under the different conditions it assumes. . . . The pathology of Cholera—variously disputed even under our large experience

of the disease, is not directly concerned in the argument; save as respects the limitation of the disorder to man, and the close analogy thereby furnished to those strange parasitical diseases or blights, which living swarms, recognized as such, inflict upon particular species both in the vegetable and animal world. Such analogy is not less complete in the exceptions and anomalies, than in the ordinary phenomena of these several migrating diseases. The detailed history of this migration in the case of the Indian Cholera—and a very remarkable history it is—affords in my mind the most conclusive proof of the view I have adopted; and is connected moreover with some of the most curious problems which life, under its innumerable forms, presents to our speculation.”

“This hypothesis,” he adds, “stops short of the minute pathology of Cholera, and offers no suggestion as to treatment—a failure that belongs alike to every other view of the causes of the disease. The duration of the epidemic in its distinct form, in any given spot, is generally from six to eight weeks. As long as the proportion of deaths to those attacked during this time remains the same, whatever the locality and whatever the mode of treatment (and I think I may affirm this to be so), we are compelled to admit that no valid remedy, general or specific, has yet been found. The recoveries, more frequent as the disease is approaching its close in any given place, prove rather the lessened intensity of the virus, than the increased efficacy of the treatment, whatever this may be. In truth the very diversity of the remedies, propounded with equal pretensions of success, becomes in itself a cogent argument that no true specific has been discovered, either wholly preventive or curative of the disease.”

We may here observe that the visitations of Asiatic Cholera in Great Britain were contemporaneous with Sir Henry Holland's professional career. The disease seems to have become endemic in Lower Bengal about 1817, whence it gradually

extended westward until it reached Russia in 1830 and Germany in 1831. In the latter year it first appeared in England—namely, at Sunderland, on the 26th of October. In 1832, it carried off victims in Scotland, England, and Ireland. Miss Martineau, writing about it, says: "Its first assault was the most violent; and then it attacked few but the vicious, the diseased, and the feeble; and it carried off, in the whole, fewer victims than many an epidemic, before and since, which has run its course very quickly. Before its disappearance from the United Kingdom, in fifteen months, the average of deaths was one in $3\frac{1}{4}$ of those attacked; and the total number of deaths in and near London was declared to be 5275. No return was obtained of the number in the kingdom. . . . If a person of rank or substance, or in healthy middle age, was attacked here and there, it was spoken of as a remarkable circumstance; and the cholera soon came to be regarded as a visitation on the vicious and the poor. Happily the preparations which depended on the apprehensions or the benevolence of the rich were made before that change in the aspect of the new plague—the cleansing and white-washing, the gifts of clothing and food; and the impression was made on all thoughtful minds that improved knowledge and care on the subject of health were the cause of our comparative immunity under the visitation of this plague, and that a still improved knowledge and care on the subject of health were the requisites to a complete immunity hereafter. Though our progress from that day to this has been slower than it ought to have been, the awakening of society in England to the duty of care of the public health must date from the visitation of the cholera in 1831-2."

Very little, however, was done until after the next and more terrible visitation in 1849, when not only "the vicious and the poor," but the virtuous and the wealthy, were stricken, and England could no longer boast of enjoying a comparative

immunity. The number of deaths in London for the week ending Sept. 15th was 3133, against an ordinary average of 1008; and the victims to cholera between June 17th and Oct. 2nd were, in London alone, 13,161. In 1853 cholera was severe in the northern towns, and in August and September, 1854, it raged in many parts of London, particularly in Soho and St. James's, Westminster. In 1866 it appeared at Bristol, on April 24th, and in July reached London. Since then, the British Islands have been practically free from it, though in 1884 it broke out with much severity in the South of France, especially in Toulon and Marseilles, and even reached Paris. Of late years the germ theory of disease has been put forward to account for this formidable affliction, and in 1879 Dr. Koch claimed to have discovered its microscopical germs, as well as those of consumption and cattle disease, while Dr. Klein, in February, 1885, published a very valuable and interesting report of his investigations into the relation of Bacteria to Cholera, which may yet exercise an important influence both upon its prevention and its treatment.

GEORGE JAMES GUTHRIE, 1785-1856.

John Bell, in one of his passages of vigorous eloquence, formulates a high estimate of the responsibilities of a Military Surgeon,* to whom the safety of thousands is committed in the most perilous situations, in unhealthy climates, and in the midst of danger. "He is to act alone and unassisted," says Bell, "in cases where decision and perfect knowledge are

* One of the earliest of English Military Surgeons was Thomas Gale, born in 1507, who attended Henry VIII. in his campaign of 1544, and was afterwards Sergeant-Surgeon to Queen Elizabeth. He was still living in 1586, and enjoying a high reputation for medical skill. A curious account of the state of military surgery in the sixteenth century is given in his "Excellent Treatise of Wounds made with Gun-shot." He also wrote an "Euchiridion of Surgine."

required; in wounds of the most desperate nature, more various than can be imagined, and to which all parts of the body are equally exposed; his duties, difficult at all times, are often to be performed amidst the hurry, confusion, cries, and horrors of battle. Even in the seasons of the greatest difficulty, cold and heat, hunger and fatigue, vexation of mind, and all the distresses of foreign service, aggravate disease; and, while they render his exertions of so much importance, teach him imperiously the necessity of an accurate and ready knowledge of his profession. It is to him that his fellow-soldiers look up at the moments of distress: his charities and his friendship are prized beyond all price! What part of education is there, needful or even ornamental, for the surgeon living at his case in some luxurious city, which the military surgeon does not require? What qualifications of the head, or of the heart? He has no one to consult with in the moment in which the lives of numbers are determined! He has no support but the remembrance of faithful studies and his inward consciousness of knowledge; nor anything to encourage him in the many humble yet becoming duties which he has to fulfil, except his own honest principles and good feeling."

An admirable type of the English Military Surgeon is afforded us in the late George James Guthrie.

He was born in London on the 1st of May, 1785. His father was a surgeon in the Royal Navy, who, retiring from the service, established himself in business for the sale of the "*Emplastrum Lytharguri*," an improved plaster, the secret of making which he had learned from his maternal uncle. He realized a considerable income, and was thus enabled to secure for his son the advantage of a good education. At the age of thirteen the young Guthrie began to study medicine under Dr. Hooper, a London practitioner of assured position; and he also attended the lectures of Drs. Baillie,

Cruikshank, Wilson, and others, on surgery and anatomy. In 1804 he passed his examination at the College of Surgeons with singular success, and was promoted at once to an assistant-surgeoncy in the 29th Regiment, which, in the following year, he accompanied to North America. In 1806 he was promoted to the rank of surgeon, and went with it through the campaigns of 1808 and 1809, being present at the Battles of Roliça and Vimiera—at the last of which he was wounded by a musket-shot in both legs—at Oporto and Talavera. On his recovery from a severe attack of fever, he was raised to the onerous position of Surgeon to the Forces (January, 1810). Attached to the Fourth Division in 1811, he found himself on the bloody field of Albuera, in sole charge of nearly three divisions of infantry and cavalry—the assistant staff-surgeon being killed by a cannon-shot during the action—and, in the evening, of nearly 300 wounded. To his courage, coolness, promptitude, and fertility of resource, as well as to his un-failing patience and energy, the survivors paid a grateful recognition.

He was also present at the three terrible sieges of Badajoz and at that of Ciudad Rodrigo—at the engagements of El-Bodon, Seraparte, and Sabugal—and at the Battle of Salamanca. He was appointed to act as Deputy-Inspector of Hospitals in October, 1812, and to take charge of the army under Lord Hill, consisting of seven divisions of cavalry and infantry, with a large hospital at Madrid. “The sudden retreat of this corps d’armée, warmly pursued by the enemy, from Aranjuez on the Tagus to Salamanca on the Tormes, encumbered with a large hospital of 800 sick and wounded, which had been formed in Madrid, and with 2000 sick in the whole on the line of march, without conveyance, and scarcely a spring waggon, rendered the position of the surgeon, as to character and reputation, perhaps even more critical than that of the general, who could at all times have turned and beaten

his opponent. The commissariat stores and dépôt at Madrid were lost; but the whole of the hospital, and the sick and wounded, were saved through the energy and decision of the medical officers. Arrested on the bridge of Alba de Tormes, one-half of them were delivered over to proper officers whom Mr. Guthrie had assembled to receive them, and returned to their regiments, whilst the remainder were sent forward to Ciudad Rodrigo, in compact and regular order, instead of being allowed to wander over and plunder the whole country."

In acknowledgement of his services, Lord Hill recommended him to the appointment of Deputy-Inspector, and the Duke of Wellington said, publicly, that his conduct was worthy of the imitation of the whole army, and that he might rely upon his promotion being confirmed.

In the early part of 1814 he was present at the Battle of Toulouse, in charge of the wounded during the action, and of the hospitals in that town, until the British army finally retired from France.

On his return to England he began to lecture upon surgery, and for thirty years continued to hold classes, which were very largely attended by the medical officers of the army and navy. In 1816 he proposed the establishment of an Infirmary for Diseases of the Eye, which, on a building being erected for it at Charing Cross, was called the Royal Westminster Ophthalmic Hospital, and he continued in charge of this successful and very valuable institution to the end of his life. In 1827 he was elected surgeon to the Westminster Hospital; and in 1833, in 1842, and in 1855 held the office of President of the Royal College of Surgeons. His death took place on the 1st of May, 1856.

His principal contributions to medical literature are—"The Diseases and Injuries of Arteries," 1830; "A Treatise on Gun-shot Wounds, on Inflammation, Erysipelas, and

Mortification," 1821 and 1827; "Lectures on the Operative Surgery of the Eye," 1823; "On the Anatomy and Diseases of the Urinary and Sexual Organs," 1836; and "Clinical Lectures on Compound Fractures of the Extremities," 1838.

ROBERT LISTON, 1794-1847.

One of the most celebrated and successful surgeons of his time was Robert Liston.

He was born on the 28th of October, 1794, at Ecclesmachan in Linlithgowshire, of which parish his father was minister. He was sent to the University of Edinburgh to complete his education. His own bias was, like that of so many brave and spirited lads, for the sea; and he could be induced to study medicine only on a promise that he should become a naval surgeon. Circumstances altered his views in this respect, but he retained his love for a "life on the ocean-wave" to the last, though his nautical excursions were chiefly confined to the Thames and its estuary.

In 1810 he began his professional studies under Dr. Barclay, who was so pleased with his talents and energy that he appointed him his assistant and prosector. In this position he acquired a thorough knowledge of anatomy, and that skill and readiness in the use of surgical instruments which made him so brilliant an operator. In 1816 he went to London, studied at St. George's Hospital, and for a brief period was under Abernethy. Having taken the diplomas of both the London and Edinburgh Colleges of Surgeons, he began to practise in Edinburgh, in 1817. Associating himself with James Syme, he undertook a course of lectures upon surgery and anatomy, resigning the latter branch to Syme in 1823; but soon afterwards a quarrel arose between them, which developed into a serious and life-long rivalry.

The successful and brilliant operations which he performed

in many serious cases placed him in the front rank of his profession, though his caustic tongue and incessant activity raised around him a host of enemies. He involved himself in a fierce controversy respecting the management of the Infirmary at Edinburgh, and with great boldness indicated the sweeping reforms which he regarded as indispensable to its utility. The managers were at length convinced that his charges were well founded, and as he had fully established his reputation as a lecturer and operator, they appointed him one of the surgeons of that excellent charity, and allowed him to carry out the reforms on which he had insisted.

He had aroused so much ill-feeling that he failed to gain the Professorship of Surgery at the University, when it fell vacant ; and he willingly accepted the surgeoncy to the North London Hospital, with the Professorship of Clinical Surgery in University College, in 1834. In the previous year he had published his "*Principles of Surgery*," which was exceedingly well received, and passed through many editions. In London his success was immediate and complete. His lectures were thronged with eager students, and for the most serious operations his firm and dexterous hand was in constant requisition. To lithotomy and lithotrity he devoted great attention. He introduced valuable improvements into the splints used for broken limbs, and in the Taliacotian operation showed an unsurpassed skill. His inventive mind was continually being exercised in the modification of the old surgical methods, or the introduction of new ones, better adapted for the work that had to be done. If any unexpected turn occurred in the course of an operation, he never lost his presence of mind, and his thorough mastery of his art suggested some instantaneous way out of the difficulty. He had eminently a surgeon's hand—strong, muscular, and powerful, and yet delicate, tender, and subtle ; like the trunk of the elephant, it was available for anything.

Liston was elected a member of the Council of the Royal College of Surgeons in 1840,* and one of its Examiners in 1846. His splendid career was abruptly cut short by aneurism of the aorta, on the 7th of December, 1847.

"His manner in ordinary life," says one of his biographers, "was sometimes complained of as harsh or abrupt, and he certainly was occasionally neglectful of the more trifling courtesies of life, and sometimes careless of refinement or punctilio. He was a man of thought more than of show. He could not bear trifles, and he did not always avoid showing his distaste. He was a fervid lover of truth and sincerity, and sometimes, perhaps, expressed himself too strongly when he thought there lurked any meanness or deceit or affectation. But in the proper and trying scene of the labours of the medical man—in the chamber of the sick—he was as gentle as he was resolute. He never had a patient who was not anxious to become a friend, and the voice which was sometimes discordant amid the petty annoyances of daily life was music to the sick man's ear. Into the scene of suffering he never brought a harsh word or an unkind look, and the hand which was hard as iron and true as steel in the theatre of operation, was soft as thistle-down to the throbbing pulse and aching brow. It may also be added, with perfect truth, that in the exercise of his arduous duties, among persons of the highest rank and most fastidious sympathies, his delicacy and forbearance were as remarkable as the sound sense which regulated all his professional conduct."

A marble statue in the hall of University College commemorates this great surgeon; but a better memorial is the

* On the death of Sir Anthony Carlisle, himself a surgeon of no mean distinction. Carlisle was born near Durham, in 1768; studied at York, Durham, and London; was elected President of the College of Surgeons in 1829; published, in 1817, his "Essays on the Disorders of Old Age." He was knighted by George IV. at the first levée he held after his accession to the throne.

Liston gold medal given annually by the College to the most successful student in Surgery.

JAMES SYME, 1799-1870.

Born five years after his illustrious rival, Syme outlived him by nearly threc-and-twenty years; and after a life of incessant and arduous toil, reached a happy and prosperous old age. We have seen that between the two great Scotch surgeons existed at one time a very strong antagonism; but Liston's generous temper repented of it when his success in London was fully confirmed, and it is pleasant to know that a genuine reconciliation was effected at his request, and that in the year of his death he and Syme met as friends, and dined together during Liston's last visit to Edinburgh.

James Syme, the son of a Writer to the Signet, was born in Edinburgh on the 7th of November, 1799. He was educated at the High School, where his teachers were struck by his tenacity and application, and his school-fellows by his partiality for botanizing and natural history. During his University course he invented a process for water-proofing articles by washing them with a solution of caoutchouc, or india-rubber; but a very similar process was about the same time invented by Mr. Mackintosh, of Glasgow (1821-5), and as Syme had declined to follow up his invention, lest it should interrupt his medical studies, he gained nothing by it but honour.

In 1819 he joined Liston in establishing classes of anatomy and surgery, and continued with him until a feeling of rivalry grew up between them, rendering further collaboration impossible. In 1822 he went to Paris, and studied for a time under Dupuytren, whom the French regard as their greatest operative surgeon. He had already become a member of the Royal College of Surgeons of England. In 1823 he was admitted to that of

Edinburgh, and began to practise in his native city, attracting immediate attention by his successful performance of the sensational operation of amputation at the hip-joint. In 1824, having seceded from Liston, he started a new medical school in George Street, in which Dr. Mackintosh taught medicine and midwifery, Dr. Fletcher physiology, and Syme himself anatomy and surgery. The difficulty of obtaining "subjects" for the dissecting-room, and the unsavoury relations thereby rendered necessary with "resurrectionists," led him to abandon anatomy and devote himself entirely to surgery, opening a class on his own account which, in 1829, numbered no fewer than 250 pupils. His abilities had by this time gained him a large private practice, though he had to struggle against the formidable competition of Fergusson,* Liston, and Lizars.†

Unable, through the feud between himself and Liston, to obtain an appointment at the Royal Infirmary, he boldly started a small hospital of his own in Minto Street, which was partly supported by public subscriptions. Here his clinical lectures drew crowds of eager students from the novelty of their method. Previously it had been the custom in Edinburgh to lecture on a group of cases without the presence of any of the patients in illustration; but Syme

* Sir William Fergusson, 1808-1877, is celebrated for the improvements which he introduced into lithotomy and lithotripsy, and in the cure of hair-lip and cleft palate; author of a work on "Practical Surgery;" was a brilliant operator, and one of the most distinguished of the great Edinburgh surgeons of the present century. Received a baronetcy in 1866; was made Sergeant-Surgeon to the Queen in 1867; and became President of the Royal College of Surgeons in 1870. "He possessed a profound knowledge of his art," says his biographer, "and wielded all its resources with consummate skill."

† John Lizars was Professor of Surgery to the Edinburgh College of Surgeons from 1831 to 1839. He was successful both as an operator and a lecturer. Was author of a "System of Practical Surgery," and of the celebrated "Anatomical Plates" (one hundred and ten in number), chiefly drawn from his own dissections. He died on the 21st of May, 1860.

brought his patients one after the other into the lecture-room, commented on the peculiar features of each case, and if an operation were necessary, performed it under the eyes of his class. Syme's constantly increasing success did not improve Liston's feelings towards him, and on one occasion the latter wrote in the subscription-book of the Minto House Hospital, "Don't support quackery and humbug"—an ebullition of spleen which involved him in an action for libel, and forced from him a reluctant apology. He had his revenge, however, in the following year, when Syme competed with John Lizars for the professorship of surgery, and through Liston's Herculean exertions, was defeated by one vote. In 1833 Liston published his treatise, "The Elements of Surgery," and Syme immediately followed with his "Principles of Surgery." This undignified contention, which brought out the worst qualities of two very able and honourable, but, unfortunately, very hot-tempered men, and convulsed for some years the little professional world of Edinburgh, was happily suspended upon Liston's removal to London in 1835, and, as we have already said, terminated on Liston's generous initiation in 1839.

We are inclined to believe that Syme was more at fault in this quarrel than Liston. He had an unlucky manner and a caustic tongue. Moreover, he was more jealous of new men and new ways than befitted a man of his undoubtedly great abilities, who had himself introduced many successful innovations into surgical practice. He was prone to believe that Syme's method was always the true method, and that no better method was, or ought to be, possible; and his opposition to Sir James Simpson's introduction of chloroform and acupressure can be explained only on the hypothesis that he objected as a matter of course to everything not introduced by himself. We have no space, and if we had the space we have no inclination, to tell the story of his numerous controversies, in which, it need hardly be said, he was not always in

the wrong. Sometimes he began by being in the wrong, but ended by coming round to the right side, as in the great question of the sites for the new hospital. The present writer was at that time a resident in the metropolis of the north, and well remembers the vigour and activity with which the impetuous surgeon took up the question. The Royal Infirmary was then situated in an inconvenient and insalubrious nook off a crowded thoroughfare. As its accommodation was insufficient, and as the death-rate which prevailed amongst its in-patients was frightfully high, owing to its defective interior arrangements and unhealthy position, it became necessary, in 1866, to erect a new and larger building. Syme and some of his colleagues desired that this building should occupy the old site; while a strong party contended that it should be raised on an entirely new site opposite the Meadows, where an unlimited supply of fresh air was available, and other important advantages could be secured. As Syme obtained increased knowledge of the extent to which cases of hospital-fever and blood-poisoning occurred in the old building he wisely changed his opinion, and then led the movement in favour of the new site (which was finally adopted in 1869), with all his characteristic energy.

The great mistake of Syme's life was his removal to London, in February, 1848, when, on the death of Liston, he accepted his vacant professorship at University College. Before his departure the profession in Scotland did homage to his transcendent merits by giving him a public banquet, at which one hundred were present. But Syme was not happy in London. He missed the old associations, the old fellowships, even the old controversies. He did not agree with the College authorities; and in 1849, after a disagreeable experience which had cost him £2000, he was back again in Edinburgh, reinstated in the chair in his *alma mater* which, a few months before, he had abandoned with such high hopes. Thenceforward he remained constant to his old love, and year

by year added to his honours, and increased the confidence which was felt in his cool judgment and masterly skill as an operator.

As a surgical writer Syme's reputation is deservedly great. Besides numerous contributions to the *Medical and Surgical Journal*, the Medico-Chirurgical Society's "Transactions," and the "Transactions" of the Royal Society of Edinburgh, he published a work, already referred to, on "The Principles of Surgery," which was well received; treatises on Diseases of the Rectum and on Stricture of the Urethra; also on "Excision of Diseased Joints (1831); "The Pathology and Practice of Surgery (1848); "Observations in Clinical Surgery (1861); and "Excision of the Scapula" (1864).

To Syme belongs the chief merit of introducing the operation of excision of the elbow-joint into Great Britain. It had been performed abroad, and once, in 1823, by Sir Philip Crampton in Ireland, before Syme's first operation, which took place in 1825. This excision he afterwards performed in thirteen other cases with such success as not only to prove its feasibility, but its singular value. Among other surgical proceedings which he introduced or improved were the operation for the permanent cure of hernia, the operation for cleft palate, the operation for the relief of impermeable stricture, operations for the relief of axillary and carotid aneurisms, the removal of the bone of the upper jaw by a single incision in the cheek, and the excision of the ankle-joint. "As a practical surgeon," says Sir Joseph Lister, "Mr. Syme presented a remarkable combination of qualities; and we have not known whether to admire most the soundness of his pathological knowledge, his skill in diagnosis, resembling intuition, though in reality the result of acute and accurate observation and laborious experience, well stored and methodized; the rapidity and soundness of his judgment, his fertility in resources as an operator,

combined with simplicity of the means employed, his skill and celerity of execution, his fearless courage, or the singleness of purpose with which all his proceedings were directed to the good of his patients."

Syme died on the 20th of June, 1870, of paralysis—the penalty which Nature so often inflicts on the eager and laborious worker.

SIR BENJAMIN BRODIE, 1783–1862.

In concluding his interesting memoir of this illustrious surgeon, Sir Henry Acland, Professor of Medicine in the University of Oxford, whom all will admit to be a competent authority, thus presents the different aspects of his professional and private character* :—

"As a scientific man his several works were marked by distinctness of purpose, adaptation of means to end, and rigid determination to conclude no more than observation completely justified. His relations to other scientific men may be best understood by recalling the just, courteous, and candid manner in which he conducted the business of the various societies whenever he was called upon to preside, and the lucidity with which he kept the main points before a meeting. He always advocated and supported open discussion, and in this way did good service to the Royal Society.

"As an author, he was not voluminous ; nor did he speak much in public. He discarded all arts of style, aiming solely at precision and brevity : he wrote, as he spoke, only when duty called, or when there was something which he believed he could write or say well.

"He was well versed in the literature of his profession and of those sciences which interested him ; but he had not much love for books as instructors in his calling, because he

* We have abridged Professor Acland's observations, but of course without in any way modifying them.

knew that observation and reflection were of more service than reading for the formation of the scientific mind, and original knowledge more valuable than that which is second-hand. He himself used books, and so advised younger men to use them, rather to gain the knowledge of what had been done, and as an aid towards actual observation and reflection, than thereby to educate themselves. His belief that observation, practice, and thought are the chiefest means for self-training in science partly accounts for the brevity of his published works, and greatly enhances their value.

“As a surgeon, he was remarkable from early life for the scrupulous care which he bestowed on the investigation of the cases entrusted to him. This obtained for him in a few years rare quickness as well as precision in the formation of his opinion. When Sir Astley Cooper’s practice declined, he was for many years extensively called upon to act as an operator. He excelled in that department of his art; for he had every requisite for success—knowledge, coolness, and the quick imagination which prepares for almost all possible emergencies that can occur, and suggests at once expedients when any come unforeseen. He did not, however, give the highest place to this part of his professional duties; for, in an occupation in which intellectual power and practical skill are combined, he valued those parts the most in which the most intellectual power is evoked. At the same time he was ready and ingenious in mechanical contrivances, and had the neatness and the method so requisite for a good surgeon.

“But the character of Brodie can be only properly considered as a whole. Neither as scientific man, nor as surgeon, nor as author, was he so remarkable as he appears when viewed as he was—a complete man necessarily engaged in various callings. It was impossible to see him acting in any capacity without instinctively feeling that there he would do his duty, and do it well. Nor could he be imagined in a

false position. A gentleman, according to his own definition of that word, 'he did to others that which he would desire to be done to him, respecting them as he respected himself.' Simple in his manners, he gained confidence at once; accustomed to mix with the poorest in the hospital and with the noblest in their private abodes, he sympathized with the better qualities of each—valued all, and despised nothing but moral meanness. Though as a boy he was retiring and modest, he was happy in the company of older persons, and as he grew older, loved in his turn to help the young. 'I hear you are ill,' he wrote once in the zenith of his life to a hospital student of whom he did not then know much; 'no one will take better care of you than I; come to my country house till you are well'; and the student stayed there two months. . . . He had not the common faults of common men, for he had not their objects, nor their instinct for ease, nor their prejudices: though he became rich, he had not unduly sought riches; though he was greatly distinguished, he had not desired fame; he was beloved, not having courted popularity. What he was himself, that he allowed other men to be, till he found them otherwise. . . .

"A few words only may be added on the inner life of his later days. Those who knew him only as a man of business would little suspect the playful humour which sparkled by his fireside—the fund of anecdote, the harmless wit—the simple pleasures of his country walk. Some, who knew these, might not have imagined another and deeper current which flowed unheard when neither the care of his patients nor his literary pursuits or memories engaged his mind. He who from his early professional life sat down every night, his work ended, his notes entered, his next day ordered, to ask what could have been better done to-day, and what case otherwise managed, was not one to reach threescore years and ten without a keen onward gaze on the destiny of man. Yet

he who realized in his profession the answer of Trophilus the Ephesian to the question, Who is a perfect physician?—‘he who distinguishes between what can and what cannot be done’—such a man would not dogmatize on what cannot be known, nor would he, so humble, attempt to scan the Infinite. But his nature yearned for some better thing to come; and yearning, it became satisfied.”

In a like strain of grateful recognition, Dr. Babington says:—

“As a practical surgeon Sir Benjamin Brodie attained a success far beyond that of most of his contemporaries, and this he seems to have owed, not to personal appearance or manner, not to eccentricity, not to an unusual display of courtesy on the one hand, or of bluntness and brusquery on the other, but to the legitimate influence of a high order of intellect, thoroughly devoted to the practical application of the stores of surgical knowledge acquired by his assiduity and experience—to the sound, well-considered, and decided opinions which his patients were sure to obtain from him, and to the confidence which his high religious principles and his strict morality inspired. He was employed by the Court of three successive sovereigns; we may add that he was not only consulted by the élite of the nobility and gentry of the land, but that, on more than one occasion, his judgment was resorted to by the advisers of the Crown in cases of public importance connected with the administration of justice. This same character for probity and judgment, and a philosophical spirit, likewise placed him at the head of the Council of Medical Education, and raised him to a position, as President of the Royal Society, such as no surgeon had ever filled.”

Sir Benjamin Collins Brodie was born at Winterslow, in Wiltshire, where his father was rector, in 1783. He was educated by his father until his eighteenth year, when he was sent to London to take up the studies necessary for the

medical profession. During his first season there he attended the lectures on anatomy given by Abernethy, of whom he says: "He was an admirable teacher. He kept up our attention so that it never flagged, and that what he told us could not be forgotten. He did not tell us so much as some other lecturers; but what he did, he told us well. His lectures were full of original thought, of luminous and almost poetical illustrations, the tedious details of descriptive anatomy being occasionally relieved by appropriate and amusing anecdotes, which, though they had been repeated over and over again, as one course succeeded another, were very agreeable to us newcomers. Like most of his pupils, I was led to look up to him as a being of a superior order, and I could conceive nothing better than to follow in his footsteps; and thus I was led to regard the department of the profession to which he belonged as that to which I should belong myself." During his second winter he attended Dr. Wilson's lectures on anatomy; worked hard in the dissecting-room; and went through a kind of voluntary apprenticeship in a chemist's shop, to gain some knowledge of the *Materia Medica* and of the compounding of prescriptions. In the spring of 1803 he entered as a pupil under Mr., afterwards Sir Everard, Home,* at St. George's

* Everard Home was born at Greenlaw Castle, Berwick, in 1756. He was educated at Westminster School, and in 1772 became the pupil of his brother-in-law, John Hunter. After studying under him for six years, he obtained the appointment of assistant-surgeon to the Naval Hospital at Plymouth—spent some time abroad—and in 1785, returning to London, was engaged by Hunter to assist him in his professional and scientific occupations. He delivered his lectures during the latter part of Hunter's life, and was left as his executor conjointly with Dr. Baillie. In 1823, George IV. made him a baronet and his sergeant-surgeon. He died in 1832. His destruction of Hunter's MSS. has left an indelible blot upon his fame; and there is grave reason to suspect that this Vandal-like action was intended to conceal his obligations to them for the materials of certain papers which he had communicated as his own to the Royal Society.

Hospital, and rapidly enlarged in this field of activity his professional experience. He assisted Home in his private operations, and in his researches in comparative anatomy, together with Mr. Clift, the clever conservator of the Museum of the College of Surgeons. About this time he made the acquaintance of Sir Joseph Banks, the naturalist.

In May, 1808, at the early age of twenty-five, he was elected Assistant-Surgeon to St. George's Hospital, and in this position showed an enthusiastic love of his profession and a rigid devotion to duty. He also began a course of lectures, in conjunction with Mr. Wilson, and when the latter retired, continued the course annually, unaided, until he resigned the work to Messrs. Babington and Hawkins nearly twenty years afterwards. In 1809, he rented a house at No. 22, Sackville Street, took pupils, and began to think seriously of private practice. In the following year he was elected a Fellow of the Royal Society, and from that time his rise in his profession was sure and rapid. He delivered, in 1813, the Croonian Lecture, choosing for his subject, "The Influence of the Nervous System on the Action of the Muscles in general, and of the Heart in particular." An event which secured his domestic happiness was his marriage, in 1816, to Miss Sellon, a daughter of Serjeant Sellon, a lady of many accomplishments and of much force of character. He tells us that in this year his professional income amounted to £1530, and he felt justified in starting that necessary appanage to a London physician's establishment, a carriage and a pair of horses.

His professional connections now brought him in contact with Sir William Knighton, of whom he furnishes an agreeable biographical sketch.

"Knighton," he tells us, "was of humble birth,* and

* In Lady Knighton's "Memoirs" of her husband (2 vols., 1838) he is described as belonging to a very respectable family. He was born at Beer Ferris, Devonshire, in 1776; educated at Newton Bushel; and after-

originally practised for a short time as an apothecary at Plymouth. While there he married a Miss Hawker—of a family of great respectability well known in Devonshire; being herself a very superior person both morally and intellectually, and highly accomplished. After his marriage Mr Knighton went to Edinburgh, studied there, and graduated as a physician. He then came to London, took a house in Maddox Street, and engaged in practice as a physician and accoucheur. He had at first few friends; but he was ambitious and determined to succeed. He devoted himself wholly to his profession, being always to be found, and not at all mixing in general society. With great natural sagacity he had most agreeable and engaging manners, and the result was that in the course of a very few years he obtained a very large practice. During the war he accompanied the Marquis Wellesley when he went on a temporary diplomatic mission to Spain. On his return to England Lord Wellesley introduced him to the Prince Regent, and soon afterwards he was created a baronet.

“According to common report, which I believe in this instance to have been well founded, an accidental circumstance led to his being more intimately acquainted with the Regent. McMahon, who at that time held the office of Keeper of the Privy Purse, died, and in his will named Knighton as his executor. Among the papers of the deceased were found some which belonged to the Regent which ought to have been destroyed. Knighton at once took the papers to the Regent, and from that time was his friend, exercising a considerable influence over him. I do not pretend to unravel the mysteries of a Court, but of this I feel assured, that however much the production of the papers might have contributed to

wards apprenticed to his uncle, a surgeon and apothecary at Tavistock. He completed his medical education in London, and then practised for awhile in Devonport.

it in the first instance, he was indebted for the long continuance of the Regent's favour more to his engaging manners, his knowledge of the world, his habits of business, and his usefulness, than to anything else. When Sir Benjamin Blomefield (who after McMahon was Keeper of the Privy Purse) was made a peer, and became our minister at Stockholm, Knighton was appointed to succeed him, and he retained his office until the death of his master in 1830.

"Knighton was a man of considerable natural powers. He had great sagacity, a very clear head, and an excellent judgment, seeing at once the main points of the question before him divested of those which were of no real importance. He was one of that very limited class of persons who have great influence over the minds of others. This may be attributed in part to his engaging manners, but more to the circumstance that he entered, or seemed to enter, into the views and interests of those for whom he entertained a regard as cordially as if they were his own. Having been originally imperfectly educated, he was deficient in some of the qualities which would have fitted him for general society, but those defects were more than compensated by his ready insight into the characters of other men, and his knowledge of the world, and of what goes on in the world. In his profession, with much practical knowledge, he had no scientific attainments. He pursued it in the first instance with no other object than that of obtaining a livelihood, and afterwards with a too great anxiety to amass a fortune. This was his principal failing, and in the latter part of his life he acknowledged to me that he was conscious that it had been so. The existence of it in his case, as in that of many others, is to be explained by the circumstance of his having passed his early years in poverty, contending with difficulties, but with very ambitious aspirations.

"When the Regent first proposed to him that he should

belong to his household, Lady Knighton very much objected to his doing so. At first, and for several years after his master succeeded to the Crown, everything went on smoothly. He was very useful, and the King's private affairs were managed in a way in which they had never been managed previously. His situation became very disagreeable, and, as he informed me, he wished to resign his office. But Lady Knighton showed him that, having once undertaken it, he could not with propriety do so, especially as he still retained the King's confidence, as was shown by his relying on his advice, and by his leaving him his executor, in conjunction with the Duke of Wellington. On the whole, I am satisfied that he would have been a happier person if he had never entered on this new career. It is worthy of notice that he studiously avoided leading his family to follow his example. I do not believe that either Lady Knighton, or his son, or daughters, were ever presented at Court. After the death of the King he mixed little with the world, leading a very retired life at his residence (Blendworth) in Hampshire. He survived the King only six years,* and Sir Stephen Hammick,† Dr. Chambers,‡

* He died in London, of enlargement of the heart, on the 11th of October, 1836.

† Sir Stephen Hammick was born in 1777, created a baronet in 1834, died a few years afterwards. He was surgeon to the Royal Naval Hospital at Plymouth ; but afterwards practised in London.

‡ William Frederic Chambers was born in India in 1786. On his father's death, in 1793, he was brought to England, and educated at Westminster School and Trinity College, Cambridge, where he graduated B.A. in 1808. Directing his thoughts to medicine as a profession, he began to study at the Medical School in Great Windmill Street, to which we have made such frequent reference, and afterwards attended St. George's Hospital. In 1816 he had the good fortune to be elected physician to that Hospital. His private practice, however, was not very considerable for some years, but from 1830 onwards it gradually increased until it became the best in London, averaging an annual return of £7,000

and myself, and one other friend, were the only persons, besides his son, who attended his funeral at the cemetery at Kensal Green."

Brodie's practice now rapidly developed—the natural result of the conscientiousness and ability with which he discharged his professional duties—and in 1823 it brought him an income of £6500. He devoted himself with great assiduity to his profession, never absenting himself from London for more than three weeks in the summer, and sometimes not at all. When London society went out of town, he hired at first a ready-furnished house at Hampstead, and afterwards took a permanent residence there, at which his family remained, and where he dined and slept, going to London every morning after an early breakfast. "My receipts were such," he says, "that I was able every year to lay by a considerable sum of money, so that I had no further anxiety as to the fate of my wife and children, in regard to pecuniary matters, if I should be taken from them. But I had anxieties," he adds, "of other kinds. I had now a large share of operative

to £8000. He was much trusted both by William IV., who made him his physician-in-ordinary, and Queen Adelaide, and continued to hold a Court appointment until his death. Having retired from practice in 1851, he settled near Lymington, where his death took place on December 27th, 1855. He was a man of great ability—very skilful, bold, and successful in his treatment—and one of the first physicians in England who adopted Laennec's invaluable invention of the stethoscope. "Chambers," says Sir Benjamin Brodie, "had an extensive knowledge of his profession, and his great natural sagacity enabled him readily to apply what he knew to the investigation and treatment of the cases which were presented to him. . . . He had other, and, I may say, still higher qualities, which caused him to be very generally popular. He was a gentleman in the best sense of the word : honourable in his dealings with others ; kind and affectionate to his friends ; using no mean arts to enhance his own reputation or depreciate that of others. To this may be added that he was an accomplished scholar, having extensive literary acquirements. I owe much to the long intimacy which existed among us, and which terminated only with his death."

surgery ; far more than fell to the lot of any other individual in the metropolis. Sir Astley Cooper's practice was beginning to decline, and he finally quitted London for a considerable time in the year 1828, and the greater number of patients, who would otherwise have applied to him, now resorted to myself. I was never much attached to this department of my profession, which I considered as requiring far less of intellectual accomplishments than the diagnosis of disease and the treatment of it in other ways. However, I could not venture to refuse what was offered to me, and I hope that I did justice to those who reposed confidence in me by sparing neither time nor trouble, and by neglecting nothing that could in any degree contribute to bring a case in which I was engaged to a successful termination. The only operation that gave me any real concern was that of lithotomy. Among the affluent classes of society, lithotomy is very rarely required for children, and hence those who form the very great majority of patients in the hospital, form a very small proportion in private practice. But lithotomy in adults is always dangerous, and among what are called the higher classes of society it is more dangerous than among the labouring classes ; as those belonging to the former are apt to defer applying for relief to the last moment, when the extension of disease has made them less fitted to undergo an operation than they would have been at an earlier period. After the year 1835, except in the hospital, I scarcely ever had recourse to lithotomy at all, substituting for it that of lithotrity, of which my experience leads me to believe that, in the hands of one who has taken the necessary pains to understand it, it is attended with less risk as to life than almost any other of the capital operations of surgery."

In the spring of 1830 he was consulted by George IV, who was suffering from dropsical swellings of the lower limbs, and was able to afford him some relief. He never

attended William IV., but enjoyed that monarch's good opinion, and was appointed by him to the honourable office of Sergeant-Surgeon in 1833. In the previous year Brodie had published his useful "Lectures on the Diseases of the Urinary Organs"; in 1837 he issued a valuable little treatise on "Local Nervous Diseases"; and, ten years later, he published a volume of miscellaneous "Lectures Illustrative of Various Subjects in Pathology and Surgery." In 1834 he was made a Baronet; not anxious for the honour, he did not see his way to refuse it, as, his annual income having increased to £10,000 and £12,000, he could make sure of bequeathing to his son not only the hereditary rank, but the means of supporting it suitably. In 1837 he purchased an estate in Surrey, Broome Park, near Betchworth, to which in the latter years of his long and well-spent life he retired, to enjoy the fruits of his successful labours. He occupied the distinguished position of President of the Royal Society for four successive years, 1858, 1859, 1860, and 1861. In July, 1860, his vision being impaired, he found it necessary to seek advice, and submitted to the operation of iridectomy on both eyes, afterwards to extraction of a cataract, and, finally, to an operation for an artificial pupil. But the result was not favourable. His general health, however, continued satisfactory; and he visited London in the winter of 1861-1862. At the end of April, 1862, he returned to Broome Park, and in a few days was seized with severe lumbago, followed by a protracted attack of fever. About July he began to complain of much prostration, and of pain in the right shoulder, which gradually increased, and was attended with feverish symptoms. Early in September appeared a swelling, which proved to be of a malignant character; and on the 21st of October he died, having retained his mental faculties unimpaired until within a few hours of his death. He was seventy-nine years of age.

Half a century has passed since Brodie was at the height of his fame, and in that half century Surgery has made a greater advance, perhaps, than any other department of Medicine. This may seem a bold statement, when it is remembered that, fifty years ago, Surgery had already accomplished an enormous development, and was illustrated by such men as Dupuytren, Roux, Velpeau, and Delpêche, in France; by Sir Astley Cooper, Sir Charles Bell, Abernethy, Sir Benjamin Brodie, and Sir William Lawrence, in England; and by Liston, Lizars, Syme, and Sir William Fergusson, in Scotland. Yet a few considerations will show that if bold it is true.* Comparing the present with the past, we are struck, first, by the greater frequency with which important surgical cases and the performance of surgical operations are undertaken by the profession; second, by the ease and precision with which operations can now be performed; and, third, by the larger and constantly increasing range of operative surgery. On the first point, we may note that if it be partly due to a higher and better system of education, which has brought the general practitioner of to-day up to a level with the specialist of yesterday, it is due in a much greater degree to the introduction of anæsthetics. "Formerly, many men, though highly educated, never operated. It is stated that the illustrious anatomist, Haller, although he regularly demonstrated the operations on the dead body, and was frequently consulted in planning operations, never ventured to operate on the living; and, in like manner, many men who possessed the required knowledge wanted the necessary nerve. The truth is that operative surgery is easier of practice now, and disarmed of many of the dangers and terrors which formerly

* In the following remarks we are largely indebted to Professor Spence's Introductory Lecture, delivered at the University of Edinburgh at the Opening of the Winter Session, 1879-80; and Dr. Maclaren's Presidential Address to the Border Counties Branch of the British Medical Association, July 25th, 1879.

made an operation a trying ordeal for the surgeon as well as for the patient." We may indicate, as examples, the operations of lithotomy and ovariectomy—formerly among the most formidable, but now among the most successful, operations of surgery.

"The use of anæsthetics," says Professor Spence, "has been an almost unmixed blessing, for though it could hardly be expected that agents so potent as to annul pain and induce unconsciousness, should be altogether devoid of risk, and though most surgeons have met with alarming cases during their use, the actual loss of life has been almost infinitesimal when compared with the numbers of cases in which they have been used. In all my own experience in operating I have had but one fatal case, and I believe not more than seven or eight cases, if so many, have occurred in the Royal Infirmary during the thirty-two years anæsthetics have been in constant use."

In another direction the advance has been considerable—that is, in the introduction of bloodless surgery, either by Esmarch's method, or by the use of the galvanic or thermocauteries. Esmarch's method, in operations on the limbs, enables the operator to prevent all loss of blood, and to proceed in prolonged and complicated excisions and dissections as leisurely, while seeing parts as clearly, as on the dead body.

Then there is the use of the sphygmograph and of the endoscope—mechanical appliances not yet perfected, but destined, no doubt, to be of much value in the future.

"The modern aids to clinical observation, as exemplified in the clinical thermometer, and the methods of careful examination of the various secretions and excretions, can scarcely be too highly prized, and form marked advances. They are, if possible, even more useful in surgery than in medicine, just because in surgery our attention is more apt

to be fixed upon the wound or local injury, to the exclusion of constitutional conditions. The clinical thermometer, when its markings are carefully registered, often serves as a 'storm signal' to the surgeon, indicating some latent mischief, whilst as yet there is nothing in the general appearance of the patient or of the wound to excite alarm; whilst the careful examination of the secretions and excretions will often decide him in delaying or avoiding operations."

As to the treatment of Disease, or the therapeutic side of Medicine, it is more difficult to speak. Dr. Morell Mackenzie* has taken a rather pessimistic view of our position in this respect; and it is, perhaps, tolerably evident that the ablest and most enlightened members of the profession are not altogether sure of their footing. There have been new remedies and new appliances, external and internal, proposed in abundance; but it is not very easy to determine their value, because until recently the methods of testing their action have not been definite. And medical men, doubting the adequacy of proposed remedies to cure the morbid conditions observed, fell more and more into the habit of waiting to see what Nature would do for herself, since they did not by any means feel certain that they could do anything for her. But a new order of things seems likely to prevail. More exact methods of investigation promise more satisfactory results; carefully conducted physiological observations, such as those of Professor Rutherford on the action of cholagogues, have taken the place of the old lax method, which often led to some remedy becoming fashionable as a kind of universal panacea, and then vanishing into oblivion.

The importance of securing and maintaining wounds in a condition free from putrefactive change has been developed as a principle of surgical practice, and the antiseptic treatment of Sir Joseph Lister is now in almost general use. It acts

* *Fortnightly Review*, June, 1886.

by destroying and excluding certain germs or organisms which float in the atmosphere around us, and the agent mostly used for this purpose is carbolic acid. What has this treatment done for surgery? It has enabled the surgeon to treat with success injuries which formerly necessitated amputation; it allows the performance of operations which, from their dangerous nature, were formerly unjustifiable; and it has classed pyæmia among the preventible diseases.

Continuous tension is an agency which has received application to a great extent of late years. It can be effected in two ways, by means of india-rubber or by a weight. Its power is very great. "A picce of taut india-rubber will cut through any tissue; a few pounds hung to a limb will weary out the strongest muscles; an india-rubber bandage wrapped tightly round a limb will empty its blood-vessels entirely, and then an india-rubber cord fastened where this stops will keep them empty, enabling operations to be performed with the precision of the dissecting-room, and with entire absence of hæmorrhage." We may refer also to the advance of subperiosteal surgery as in itself a remarkable epoch in the history of the science. That the main support of a limb—that which constitutes it a limb—which gives attachment to all its muscles—can be removed, leaving a molluscous mass of soft tissues, and that in a few weeks this is replaced by a bone, which in form and function is a reproduction of the original, really approaches "a creative art."

Reduction of dislocation of the hip is now effected with comparative ease. In the treatment of deformities of bone, whether resulting from disease or from injury, subcutaneous osteotomy does what tenotomy has done for deformities of the soft parts. Increasing boldness in the use of the knife, the scissors, and the *écraseur* has been and is being shown in the treatment of cancers and tumours. And in the surgery of blood-vessels, *acupressuro* and torsion has been added to

our means of controlling hæmorrhage. Tho ligature of bleeding veins in stumps is now an ordinary practice, and has completely dispersed the old superstitious dread of interfering with those vessels. "Aneurisms, which were formerly beyond the reach of treatment, are now amenable to it: thus abdominal aneurisms have been cured by rapid pressure on the aorta at the level of the epigastrium; galvano-puncture has arrested thoracic aneurisms; and there seems good reason to believe that double distal ligature will cure many cases of aortic and innominate aneurism."

In the treatment of stone, lithotritry has gained a great hold upon the profession. The lithotrite has been improved, and to a great extent has driven lithotomy from the field, except in the more critical cases. Twenty years ago ovariectomy was just struggling into existence; it was not by any means the established operation it now is, and was still within the regions of controversy. Its success in the hands of Sir Spencer Wells—and we may also particularize Dr. Keith, of Aberdeen—has changed and is still changing the character of abdominal surgery. It has brought prominently before surgeons the possibility of safely opening the peritoneal cavity, and that it is even justifiable sometimes to do so for the purpose of making or confirming a diagnosis.

The treatment of ulcers has been vastly improved, and the same may be said of the treatment of *spina bifida*, formerly so fatal to newly-born children, as well as of "cleft of the hard palate." Nor must we forget the application of the principle of absolute rest (by enclosing the body in a plaster-of-Paris jacket) to disease of the vertebræ. Nerve-stretching for neuralgia has been found a successful expedient when less formidable remedies have failed. And it is only limitation of space which prevents us from indicating the numerous reforms that have taken place in the treatment of diseases of the throat, the ear, and the eye.

CHAPTER VII.

BIOGRAPHICAL NOTES ON EMINENT CONTEMPORARY PRACTITIONERS.

WE shall now arrange in alphabetical order some notes on the life and work of the most eminent of contemporary practitioners—those now living, or those who have died within the last decade.

SIR HENRY ACLAND, fourth son of Sir Thomas Dyke Acland, Bt., was born in 1815, and educated at Harrow and Christ Church, Oxford. In 1841 he was elected to a Fellowship at All Souls. He graduated as M.D. in 1848; and ten years later became Regius Professor of Medicine. In 1860 he accompanied the Prince of Wales to the United States and Canada as medical attendant, and on his return was appointed Honorary Physician to his Royal Highness. While the late Duke of Albany was studying at Oxford, Sir Henry acted as his physician. He has held numerous public offices in connection with his profession, such as President of the British Medical Association and President of the Medical Council; and written numerous treatises and papers on subjects medical, physiological, and sanitary. To the last-named department his attention has specially been given. The Oxford University Museum is in a great measure the creation of his untiring industry and scientific zeal.

DR. GEORGE JAMES ALLMAN, born at Cork in 1812, was educated at Belfast, and afterwards at the University of Dublin, where he graduated both in arts and medicine (1844). From 1855 to 1870 he held the Regius Professorship of

Natural History in the University of Edinburgh. His special subject of investigation has been the organization of the lower forms of animal life, and in relation to it he has published some very valuable monographs.

MRS. ELIZABETH GARRETT-ANDERSON, M.D., is the eldest daughter of Newsom Garrett, Esq., of Aldeburgh, Suffolk, and was born in London in 1837. Having formed enlightened views of the work which might be done by women, she began the study of Medicine in 1860, with a view to registration and practice under "the Medical Act" of 1858. After vain attempts in several quarters, she obtained admission as a student at Apothecaries' Hall, London, where she attended some of the classes with male students; and in lieu of attendance upon others, which were closed against her, she paid comparatively heavy fees for private tuition by recognized teachers. The difficulties ungenerously thrown in the way of her receiving hospital instruction were gradually surmounted by her energy and perseverance; and in 1865 she succeeded in obtaining registration as a licentiate of Apothecaries' Hall. Thus she developed into a legal and "duly qualified" medical practitioner, in spite of the impediments raised in quick succession by official jealousy and a narrow conventionalism. The diploma of M.D. she gained, however, from no English examining body, but from the University of Paris, where she passed the necessary examination with considerable distinction in 1870. In 1871 she married. Mrs. Garrett-Anderson enjoys a large practice among members of her own sex, of whose rights and privileges she is, by the way, an eloquent and uncompromising advocate.

Edinburgh has given to surgical science some illustrious names; and in our own time it seems likely that that of PROFESSOR ANNANDALE will rightly be added to the famous list. Thomas Annandale was born at Newcastle-on-Tyne, February 2nd, 1838. He was educated at the University of Edin-

burgh, where he is now Professor of Clinical Surgery, and for some months acted as private assistant to the late Professor Syme. Starting in practice for himself, he soon began to be known as a successful operator, with a keen eye and a firm hand, and a thorough knowledge of his business; and of late years has been acknowledged as the leading surgeon in Scotland. To the literature of his profession he has made some valuable contributions, dealing chiefly with points of practical surgery. His "Abstracts of Surgical Principles" has passed through several editions. He was married in 1874 to the eldest daughter of William Nelson, Esq., the well-known publisher. Professor Annandale is surgeon to the Royal Infirmary.

Both as physiologist and physician we must acknowledge the services and high capacity of DR. H. CHARLTON BASTIAN, the author of "Evolution and the Origin of Life," "The Beginnings of Life," "The Modes of Origin of Lowest Organisms," and "Clinical Lectures on the Common Forms of Paralysis from Brain Disease." Henry Charlton Bastian was born at Truro, in Cornwall, on the 26th of April, 1837, and educated at Falmouth, whence he was removed to University College, London. He graduated M.A. in 1861; M.B. in 1863; and M.D. in 1866. In 1868 he was elected a Fellow of the Royal Society. He has long been connected with the University College Hospital, and in University College occupies the chair of Pathological Anatomy. He is also Physician to the National Hospital for the Paralyzed and Epileptic.

Like Dr. Bastian, DR. LIONEL BEALE has taken an active share in the controversies begotten by the theories of Darwin; and his "Protoplasm: or, Life, Matter, and Mind," is, on his side of the question, a well-reasoned and ingenious argument. He has also taken up, with much activity, the germ-theory of disease, in his book on "Diseased Germs, their supposed

and real Nature, and on the Treatment of Diseases caused by their Presence." Among his other writings we may name "The Mystery of Life: Facts and Arguments against the Physical Doctrine of Vitality"; and, in conjunction with Todd and Bowman, "The Physiological Anatomy and Physiology of Man." He has also discoursed before the Royal Society on nerve-fibres, nerve-centres, the structure of the liver, and similar subjects. Lionel Smith Beale, Physician to King's College Hospital, and Professor of the Principles and Practice of Medicine in King's College, was born in London, and educated in King's College School. He was elected a Fellow of the College of Physicians in 1859.

SIR JAMES RISDON BENNETT, M.D., was born at Romsey, in Hampshire, in 1815. Having been educated for the medical profession, he graduated as M.D. at the University of Edinburgh, in 1833. Settling in London, he soon rose, by sheer force of ability, out of the rank of medical practitioners; and in 1843 was elected Assistant-Physician to St. Thomas's Hospital. He was one of the founders of the old Sydenham Society for the publication of medical works of standard authority. After filling the offices of Censor, Lumleian and Croonian Lecturer, he was elected President of the College of Physicians in 1876, and re-elected for four more years consecutively—an unusual distinction. In 1878 he was appointed one of the Commissioners of the Paris Universal Exhibition, and received from the University of Edinburgh the honorary degree of LL.D.

DR. ARCHIBALD BILLING, born in 1791, was educated at Trinity College, Dublin, where he graduated, and afterwards at Oxford. Settling in London, he became an F.R.C.P. in 1818, was for some time Physician of the London Hospital, but on the establishment of the London University, migrated thither, and has acted as an Examiner there for Medical Degrees. He has contributed largely to *The Lancet*, the

Medical Gazette, and other periodicals, on fever, cholera, aneurism, and on the cause of the sounds of the heart. His text-book on "First Principles of Medicine" has met with very general acceptance, and is scarcely less popular in the United States, and in France and Germany, than in Great Britain.

SIR WILLIAM BOWMAN, surgeon to the Royal London Ophthalmic Hospital, and formerly Professor of Physiology and General and Morbid Anatomy at King's College, is the third son of Mr. J. Eddowes Bowman, and was born at Nantwich on the 20th of July, 1816. He was educated under Mr. Thomas Hill, of Birmingham, the father of Sir Rowland Hill, and having adopted surgery as a profession, became, for a period of five years, a resident pupil at the General Hospital, Birmingham. Afterwards he studied at King's College, London, and was successively appointed prosector and demonstrator of anatomy, and curator of the anatomical museum. Meanwhile, in anatomy and experimental physiology he had assiduously been prosecuting his researches; and the conclusions to which his patient labours had brought him were clearly and forcibly enunciated in the memoirs which he submitted to the Royal Society—one of which, "On the Structure and Use of the Malpighian Bodies of the Kidney," was so good a piece of work that it earned for him the gold medal—which, if a confusion of metaphors may be allowed us, is the blue ribbon of science, and one of the highest honours a scientific inquirer can receive. He has prosecuted with much ardour close investigations into the structure of the eye, and in 1846 accepted an assistant-surgeoncy at the Royal Ophthalmic Hospital. His lectures, in 1847, on the "Parts Concerned in Operations on the Eye," showed that he had mastered the minute details of ophthalmic surgery; and since 1862, when he resigned the surgeoncy to King's College Hospital, and virtually withdrew from general practice, he has stood at the head of this branch of the profession.

DR. WILLIAM ALEXANDER FRANCIS BROWNE, born near Stirling in 1805, devoted himself to the study of mental disease, and as physician to the Royal Crichton Institution, Dumfries, and as a Commissioner of Lunacy in Scotland, did much to support the introduction of more rational and humane principles into the treatment of the insane.

DR. WILLIAM BUDD was born at North Tawton, in Devonshire, in September, 1811. His father was a practitioner of high repute; and he himself was one of a distinguished family of nine sons, seven of whom entered the medical profession. It should be noted that five members of the family were wranglers. William Budd prosecuted his medical studies in London and Edinburgh, and in Paris, where he spent five years, at the Collège de France and the Ecole de Médecine. In 1838 he graduated M.D. at the University of Edinburgh, and carried off the gold medal for an essay on Rheumatic Fever. Returning to North Tawton, he for some time assisted in his father's practice, and began, in 1839, those investigations into typhoid fever, by which he had himself been a sufferer, which will always be associated with his name. An epidemic of typhoid broke out in the village, and found in its cesspools and pig-styes a most favourable soil for the development of its germs. Upwards of eighty cases occurred, and into each the young physician inquired with the most painstaking minuteness. After this he was appointed physician to the *Dreadnought*; and about the same time published in the *Medico-Chirurgical Transactions* a paper on the Symmetry of Disease, which attracted much attention. In 1842 he settled in Clifton, and was appointed Physician to St. Peter's Hospital. In 1847 he obtained the post of Physician to the Bristol Royal Infirmary, which he held till 1862, when he was made Consulting Physician to that institution. For some years he occupied the Chair of Medicine at the Bristol Medical School. In 1870 he was made an F.R.S. Continuous toil of body and

mind, acting on a constitution weakened by two attacks of fever, wore him out at length, and in 1873 he retired from professional life. He died at Clevedon on the 9th of January, 1880. Dr. Budd's ability was universally acknowledged by the public, and appreciated by the profession. "His extensive learning," says a writer in *The Lancet*, "and great practical knowledge of disease, the clearness of his mental vision and the strength of his convictions, together with the logical force with which he urged them, combined, with his natural kindness of disposition and his unusual power as an orator, to make him the centre of professional life, a leader of professional thought and activity." He was, moreover, a man of many accomplishments; he was well acquainted with French, German, and Italian; was a skilful photographer and a good draughtsman.

Dr. Budd's world-wide reputation is founded upon his researches into the pathology and mode of discrimination of typhoid fever. His views on these subjects, though partly controverted by the late Charles Murchison, are now generally accepted by the profession. It was in 1873 that he put them before the public in his work on "Typhoid Fever, its Nature, Mode of Spreading, and Prevention," which has been described as "a striking instance of the practical application of strict scientific methods of induction to the elucidation of the complex problems presented by disease." His is the enduring honour of having proved that typhoid fever is "a contagious or self-propagating fever, and is a member of the great natural family of contagious fevers, of which small-pox may be taken to be the type;" and that "the contagious matter by which the fever is propagated is cast off chiefly in the discharge from the diseased intestine." Liebermeister, in Zeemson's "Cyclopædia," says: "The opinion that the poison of typhoid fever is propagated continuously, and never originates autochthonously, was first established by Budd." In the book just referred to, Dr. Budd describes the outbreak

of the fever at North Tawton, and its extension to adjacent villages solely through proved sources of contagion. He then shows that the intestinal discharges contain the specific contagious matter. He traces by the convincing evidence of outbreaks of the fever its propagation through the medium of drinking water, but also proves the conveyance of the specific poison by sewer-contaminated air; and adds that the worst outbreaks he has witnessed have occurred where the water was not in fault. He also gives instances of infection through other agencies, such as hands, bedding, and clothes; and emphasizes the danger resulting from the fact that "the *sewer* has come to be looked upon as the actual and primary source of the disease, while the infected *man* has been altogether lost sight of." In conclusion, he says that "Science passes into duty"—that duty being to discharge the process of disinfection with all possible thoroughness. He argues forcibly against the "pythogenic" theory of the origin of the fever. He remarks that one positive case is worth many negatives, and that the absence of proof of infection in a given instance is not special to typhoid fever, being frequently met with, for instance, in small-pox; and he contrasts the long-continued and entire immunity from typhoid fever amid the impurities to which it is commonly ascribed, with the intense virulence when once introduced.

Cholera was another subject which engaged Dr. Budd's attention; and in this, as in typhoid fever, he held that the dejecta contained the contagious matter, and that by proper measures of disinfection, a cholera outbreak could be arrested absolutely. In his pamphlet on "*Asiatic Cholera in Bristol in 1866*"—published in 1871—he comments upon the various epidemics which have occurred in Bristol, and shows that whereas in 1849 the deaths were 1979, in 1866 they were only 29; that whereas in previous epidemics the disease had spread widely from points where it first appeared, in that of 1866 it

did not extend at all, although it was introduced in twenty-six distinct localities, and was of a specially malignant type. The success with which the cholera invasion of '66 was crushed out in Bristol was due to the energetic measures—especially the purification of the water supply—which Dr. Budd considered indispensable in connection with his views of the mode of extension of the disease, and energetically devised and carried out.

He devoted a good deal of careful study to the contagious diseases of animals. In 1863 he published a pamphlet upon "Variola Ovina, Sheep's Small-pox; or the Laws of Contagious Epidemics." When the rinderpest, or cattle-plague, first appeared in England, he warmly contended that it could and ought to be stamped out by killing every animal in whom its symptoms were detected; and this opinion, though at first ridiculed in the columns of *The Times* as "Dr. Budd's Pole-Axe Theory," was eventually adopted. In speaking of this method, Dr. Budd was wont to assert that any contagious disease, such as scarlet fever, could thus be utterly exterminated, if only the same line of action were adopted.

From a review of his life-work, "it is manifest," says *The Lancet*, "that Dr. Budd's best energies were devoted to the furtherance of preventive medicine, and of few men can it be said that they have effected more for the welfare of the human race than has been done by the truly great man who has taught us how we may deal fearlessly and surely with foes that formerly gained power and terror from the mystery in which they were enshrouded."

SIR GEORGE BURROWS, Bart., M.D., F.R.S., was born in 1803. He was educated at Caius College, Cambridge, where, in 1825, he graduated as B.A., in 1826 as M.B., and in 1831 as M.D. In 1834 he obtained the appointment of Physician to St. Bartholomew's Hospital. Rapidly pushing forward into the front rank of his profession, he obtained a large and

lucrative practice, while he was elevated year after year by his medical brethren to the most influential offices in their gift. As a proof of the respect commanded by his solid abilities, his extensive acquirements, and his force of character, we may state that, for five years consecutively, he was elected President of the Royal College of Physicians, and for six years President of the Medical Council of Great Britain. Many of his contemporaries, no doubt, enjoyed a more brilliant reputation, their gifts being of a showier order; but none were more widely and profoundly respected. In July, 1871, he was appointed Physician-Extraordinary, and in November, 1873, Physician-in-Ordinary to the Queen. In 1874 he was created a baronet. His literary fame must rest on his elaborate treatise, "On Disorders of the Cerebral Circulation, and the Connection of Diseases of the Heart and Brain."

DR. WILLIAM BENJAMIN CARPENTER, one of the most distinguished of living physiologists, is the son of the late Dr. Lant Carpenter, of Bristol, where he was born in 1813. He was educated at Bristol, and intended for the vocation of a civil engineer, but his tastes inclined towards the medical profession, and, after studying at University College, London, he went to Edinburgh to complete his preparation. There, his wide intellectual capacity and his love of physiological inquiry were exhibited in the thoughtful and original papers which he contributed to the *Edinburgh Medical Journal* or published independently. The conclusions at which he had arrived were more fully developed, however, in his "Principles of General and Comparative Physiology," published in 1839, the year in which he graduated as M.D. This was one of the earliest works in our language which formulated the elements of the science of life, and indicated the influence of physical laws upon vital phenomena. It was a remarkable effort on the part of a young man of six-and-twenty. Settling in Bristol, he began to practise as a doctor, and was appointed lecturer

on medical jurisprudence in the medical school of that city. But the ordinary range of a medical practitioner's inquiries was insufficient to satisfy the active mind which enjoyed to attack the deepest problems of physiological research. He removed to London in 1843, and began the life of a man of science *pur et simple*. To enumerate the different manuals and treatises which he has since given to the world is beyond our power; but those which best exhibit the characteristics of his clear and cautious intellect, and are most likely to be remembered by posterity, would seem to be his "Principles of Human Physiology," his "Principles of Mental Physiology," his "Introduction to the Study of the Foraminifera," and his treatise "On the Microscope, its Revelations and Uses." He is a strong advocate of total abstinence, and his prize essay, "On the Use and Abuse of Aleoholic Liquors," is still a standard authority on that side of a *quaestio vexata* which apparently defies satisfactory solution. In 1868-70, Dr. Carpenter took a leading part in the scientific expedition despatched by the British Government for deep-sea explorations; and the voyage of *The Challenger* was undertaken at his suggestion. Dr. Carpenter has been Registrar of the University of London since 1856. He received the honorary degree of LL.D. from the University of Edinburgh in 1871; was President of the British Association in 1872; and was appointed a Companion of the Bath in 1875.

RICHARD BRUDENELL CARTER, born at Little Wittenham on the 2nd of October, 1828, was educated for the medical profession, became a member of the Royal College of Surgeons in 1851, served in the Crimean expedition as staff-surgeon, practised for a short time at Nottingham, and afterwards at Stroud, and settled in London in 1868. He had already devoted special attention to diseases of the eye, and in 1870, becoming Ophthalmic Surgeon to St. George's Hospital, he assumed a recognized position as a practical oculist and a

writer upon ophthalmic affections. In 1877, as Hunterian Professor at the College of Surgeons, he delivered a valuable course of lectures on "Defects of Vision which are Remediable by Optical Appliances." He has also published a "Practical Treatise on Diseases of the Eye," which is acknowledged to be of the highest merit, but to the general public he is probably best known by his popular handbook, so lucidly written that it is easily "understood of the common people," entitled "Eyesight, Good and Bad: a Treatise on the Exercise and Preservation of Vision," which we strongly recommend to everybody desirous of preserving God's most precious gift of sight.

SIR ANDREW CLARK, born on the 28th of October, 1826, was educated first at Aberdeen, and afterwards at Edinburgh, where his student-career was singularly successful. After a good deal of varied experience, he took his degree as M.D. in 1854 at the University of Aberdeen, settled in London, and almost without delay laid the foundation of a successful practice. He became a member of the Royal College of Physicians, and, in 1858, a Fellow; was elected on the staff of the London Hospital, where in due time he became Senior Physician and Lecturer on Clinical Medicine. His contributions to the medical journals have been very numerous, and have dealt in the main with pulmonary and respiratory affections. Of late years he has come very prominently before the public as Mr. Gladstone's medical attendant; and at that statesman's recommendation the Queen conferred upon him a baronetcy in 1883. In December, 1881, the University of Aberdeen granted him the honorary degree of LL.D.

As the author of an important work on the "Entozoa: an Introduction to the Study of Helminthology," 1864, and the fuller and more comprehensive treatise, "Parasites: a Treatise on the Entozoa of Man and Animals," 1880, reference must here be made to DR. THOMAS SPENCER COBBOLD, though he has for some years retired from professional

practico. He was born at Ipswich on the 26th of May, 1828, and took his M.D. degree at Edinburgh in 1851. In 1872 he was appointed Professor of Botany and Helminthology at the Royal Veterinary College. To the "Transactions" of the Royal, the Linnæan, and the Zoological Societies he has contributed numerous papers upon scientific subjects, more particularly upon the parasitic diseases of man and domestic animals—a branch of inquiry which he has made his own.

SIR DOMINIC JOHN CORRIGAN, an eminent Irish pathologist and physician, was born in Thomas Street, Dublin, on the 1st of December, 1802; was educated at the Lay College of St. Patrick's, Maynooth; and afterwards apprenticed to a practitioner of repute in Maynooth, who, struck by his ability, recommended that he should be sent to the Edinburgh Medical School. He graduated as M.D. in 1825. Returning to Dublin, he accepted in succession the posts of Physician to the Meath Street Dispensary, Professor of Medicine in the Carmichael School (1833), and Physician to the House of Industry Hospitals (1840). In the last-named capacity he delivered his excellent "Lectures on Fever," which were published in 1853. On the establishment of the Queen's University in Ireland, in 1841, he was appointed a member of the governing body, and thirty years later he was made Vice-Chancellor. In 1849 the University of Dublin "honoured itself and him," as *The Lancet* says, by conferring upon him the honorary degree of M.D. For five consecutive years he was elected President of the King's and Queen's College of Physicians in Ireland; and as the seal and stamp of a singularly successful career he received a baronetcy in February, 1866—an honour he had fully merited by his great services to the public health and the cause of national education. His private practice, meanwhile, was so large and influential as to set him at the head of his profession in Ireland, bringing him an annual income of £8000 to £10,000. In August,

1870, he was elected M.P. for the City of Dublin, and he represented that constituency until the dissolution of 1874. After a long, laborious, and useful, as well eminently prosperous life, he died on the 1st of February, 1880. The immediate cause of death was an attack of paralysis; but for some years previously he had suffered much from gout. His professional writings were not numerous, but his memoirs "On Permanent Potency of the Aortic Valve," "On the Motions and Sounds of the Heart," and "On Cirrhosis of the Lungs," will always be highly esteemed; and he was the first to describe what is known as "Corrigan's pulse," or "Maladie de Corrigan"—a remarkable pulsation now recognized as the unfailing symptom of disease of the aortic valve of the heart. His "Ten Days in Athens" is full of lively description.

DR. WILLIAM HOWSTROP DICKINSON, born June 9th, 1832, was educated at Caius College, Cambridge, and St. George's Hospital, London. He has held many important professional positions, and commanded a considerable metropolitan practice. In 1869 he was appointed Physician to the Hospital for Sick Children. His researches in pathology and physiology have been extensive and ably conducted; and upon diseases of the kidneys, uterine disorders, and children's affections, he is an acknowledged authority.

Among obstetric practitioners, and writers upon obstetric science, a high position is held by DR. JAMES MATTHEWS DUNCAN, who was born at Aberdeen on the 29th of April, 1826, and educated at Aberdeen, where he graduated as M.D. He also carried on his studies at Edinburgh and Paris. Selecting Edinburgh as his field of practice, he became connected with the late Sir James Simpson, assisted him in his experiments on the anæsthetic properties of chloroform in 1847, and was very active in making them known. In 1860 he took a prominent part in establishing the Edinburgh Royal Hospital for Sick Children—a model institution of its kind, which has had

a most successful career. As an obstetrician, Dr. Matthews Duncan gradually acquired a very extensive practice and a distinguished reputation; and when the death of Sir James Simpson vacated the Professorship of Midwifery in the University, in 1870, public opinion, with rare unanimity, designated him for the post. The patrons, however, passed him over in favour of Sir James Simpson's son—much to the general indignation, expressions of which are recorded in *The Scotsman* for that year. In 1877 he was offered, and accepted, the offices of obstetric physician and lecturer in St. Bartholomew's Hospital, London. He is now resident in Bath. His principal writings are: "On Population, Fecundity, Fertility, Sterility, and Allied Topics," 1865; "On Perimetritis and Parametritis," 1867; "Contributions to the Mechanism of Natural and Morbid Parturition"; and "Clinical Lectures on the Diseases of Women," 1880.

JOHN E. ERICHSEN, born in 1818; educated at University College, London; became a Fellow of the Royal College of Surgeons; and in 1850 was appointed Professor of Surgery in University College, and surgeon to the hospital connected with its medical school. His brilliant services in both capacities were recognized in 1881 by the presentation of a handsome testimonial, to which there were upwards of three hundred subscribers. He gained much distinction by his researches on asphyxia, for which he was awarded the Fothergillian gold medal by the Royal Humane Society in 1844. He has written a valuable work on the "Science and Art of Surgery," which has gone through several editions, and been translated into French, Italian, and German. Mr. Erichsen has also published many papers in the medical journals, and in the "Transactions of the Royal Medico-Chirurgical Society." He is Surgeon-Extraordinary to the Queen.

DR. WILLIAM FARR was born in Kenley, in Shropshire, on the 30th of November, 1809. He was educated for the

medical profession, and after studying with much success in Paris, proceeded to the University of London in 1831. After discharging for a short time the duties of house-surgeon at the Shrewsbury Infirmary, he returned to London, and began to practise; but soon found a more appropriate field for the exercise of his special gifts in the study of the causes of disease and the means of their removal. He wrote the article "Vital Statistics" in McCulloch's *Statistics of the British Empire*, and contributed various papers on the same subject to the leading medical journals. We may refer particularly to his reports on "Asiatic Cholera in England," in 1849 and 1854. He also constructed the English Life Tables, and was mainly instrumental in the adoption of the Post Office system of life insurance. In 1838 he was appointed to an office in the Registrar-General's office, where he organized the statistical department, of which for two-and-forty years he acted as superintendent—the annual reports of which he issued in this capacity proving of immense value to the cause of sanitary reform and public hygiene. Dr. Farr retired at the end of 1879, conceiving himself unfairly dealt with by the Government. He received the degree of M.D. from New York. In 1881 a public subscription of £1000 was raised as a testimonial to his merits, and invested, at his request, for the benefit of his family.

SIR JOSEPH FAYRER, K.C.S.I., M.D., F.R.S., was born at Plymouth on the 6th of December, 1824. After being privately educated, he began his studies for the medical profession in London, and continued them in Edinburgh, where he graduated as M.D. His later professional distinctions include: Fellow of the College of Physicians of London, Fellow of the College of Surgeons of Edinburgh, Fellow of the Royal Society, Professor of Surgery in the Medical College of Bengal, from 1859 to 1874; and President of the Medical Faculty of the Calcutta Society. Our limits of space prevent

us from giving a fuller record, and also from enumerating all his literary productions. We must particularize, however, his "Clinical Surgery in India," and his great work on the "Poisonous Snakes of India," published by the Indian Government in 1872. His active professional career has been marked by many stirring episodes. He served in the military hospital of Palermo during the siege of that city in 1847, and was present also at the siege of Rome in 1848. Having entered the Bengal Medical Service in 1850, he speedily impressed the authorities with a sense of his rare abilities and attainments, and was rapidly promoted. During the Indian Mutiny he was Political Assistant and Residency Surgeon at Lucknow, and its successful defence against the rebel Sepoys was largely aided by his cool courage, happy judgment, and fertile resource. He accompanied the Prince of Wales as physician during his tour in India, and was advanced to the Knight Commandership in the illustrious Order of the Star of India in March, 1876. He retired from the service, with the rank of Surgeon-General, in 1874; and in the same year was appointed President of the Medical Board of the Indian Office. In 1882 he delivered the Croonian Lectures at the College of Physicians on "The Climate and Fevers of India." He is honorary physician to the Queen, the Prince of Wales, and the Duke of Edinburgh.

The position occupied by SIR WILLIAM WITHEY GULL is very similar to that formerly held by Sir Henry Hallford, Dr. Chambers, or Sir Henry Holland; though as a clinical physician he is undoubtedly far superior to either of these once eminent men. His scientific knowledge is sound and wide; and he is not less successful in diagnosis than in method of treatment. His professional writings exhibit a remarkable clearness of view, sobriety of judgment, accuracy of observation, and range of attainments; as in his "Harveian Oration" for 1870, his "Oration" delivered before the Hunterian

Society in 1861, and his "Clinical Observations in Relation to Medicine in Modern Times," 1868. These are intelligible to lay folk. To the younger members of the profession may be recommended his essays on "Hypochondriasis" and "Abscess of the Brain," in Dr. Russell Reynolds's "System of Medicine," and his Gulstonian Lectures "On Paralysis." His range of professional experience has been extensive. Born on the last day of December, 1816, at Thorpe-le-Soken, Essex, he was educated privately, and subsequently entered upon his medical studies at Guy's Hospital—an institution which seems to have exercised a kind of fascination over him, as for fifteen years he resided within its precincts, or in its immediate neighbourhood. He graduated M.B. in 1841, and M.D. in 1846, at the London University; and it may be noted that he was the first medical graduate nominated on the Senate by the Crown. He held the post of Fullerian Professor of Physiology at the Royal Institution from 1847 to 1849. Meanwhile, he lectured upon Physiology and Comparative Anatomy at Guy's, and acted as resident medical superintendent of the asylum for private lunatics temporarily connected with that great hospital. He had adopted Dr. Conolly's views of a rational and humane treatment of the insane, and applied them with such singular success that all his patients were discharged cured. For twenty years he acted as physician and lecturer to Guy's; retiring in 1867, but renewing his connection with his favourite institution in 1871 as consulting physician. His teaching attracted large numbers of students, and the present high repute of Guy's is in no small degree due to Dr. Gull's exertions. To a physician of such exceptional gifts a brilliant position in metropolitan practice was necessarily assured; but he was brought still more prominently before the public in the winter of 1871 by his successful treatment, in conjunction with Sir William Jenner, of the Prince of Wales, when attacked by typhus fever at Sandringham. For his services

he received a baronetcy in January, 1872, and in the following month was appointed one of the Queen's Physicians Extraordinary. From 1871 to 1883 he was Crown member of the General Medical Council. He received the honorary degree of D.C.L. from the University of Oxford in 1868, and was elected a Fellow of the Royal Society in 1869. In the Alcohol controversy Sir William Gull is on the side of the Total Abstiners; in the Vivisection controversy, takes part with the Vivisectionists. He forms his opinions slowly, but holds them firmly, and does not hesitate to give to them the fullest and freest expression. Unquestionably, he is a man of whom the profession may well be proud: in the annals of Medicine in England there can be no doubt that his name will always hold a honoured place.

The science of Public Hygiene has had few abler or more zealous exponents than DR. WILLIAM AUGUSTUS GUY, who, throughout a long career, has devoted his abilities and his energies to the furtherance of every movement connected with sanitary reform and the national health. He was born in 1810 at Chichester, where for three generations his family had carried on an extensive medical practice. Destined to continue the family tradition, he was educated at Christ's Hospital, London, and then sent to study for the profession at Guy's. In 1841 his essay "On Asthma" was rewarded by the London Medical Society with its gold medal. Proceeding to Cambridge, he graduated there as M.B. in 1837, having, in the interval, spent two years in scientific pursuits at Paris and Heidelberg. In the following year he was appointed to the chair of Forensic Medicine in King's College, London. He became Physician to King's College Hospital in 1842, and Professor of Hygiene in 1869. He was admitted a Fellow of the Royal College of Physicians in 1844; held office as Censor in 1855, 1856, and 1866; and delivered the Croonian and Linnæian Lectures in 1861 and 1868 respectively. He has

held numerous other appointments of a respectable character, and of the Health of Towns Association he was one of the founders. Every movement connected with the public health has enjoyed his active support; and his literary work, always solid and intelligent, has been constantly occupied with such subjects as sanitary reform, the extirpation of disease, and the reform of the criminal classes. His most important publications are entitled "Public Health: a Popular Introduction to Sanitary Science" (1870), and "Principles of Forensic Medicine."

One of the most distinguished of contemporary surgeons was MR. CÆSAR HENRY HAWKINS, grandson of Sir Cæsar Hawkins, who held the appointment of Sergeant-Surgeon to George II. and George III. He was born about 1793; was educated for the medical profession; for some years acted as Lecturer on Anatomy at the Medical School in Great William Street; and in 1829 was elected Surgeon to St. George's Hospital, where his lectures proved eminently attractive. His skill as an operator secured for him a large and increasing practice, and his reputation was confirmed by his successful performance of the formidable operation of ovariectomy in 1846. He was twice President of the Royal College of Surgeons, and in 1849 delivered the Hunterian Oration, when the late Prince Consort honoured the College with his presence. On his retirement from active duty at St. George's Hospital in 1861, he was elected Consulting Surgeon. On the death of Sir Benjamin Brodie he was appointed Sergeant-Surgeon to the Queen.

SIR WILLIAM JENNER, Bt., K.C.B., at the present time stands in the front rank of the medical profession in England, by right of his distinguished abilities and his long and varied experience. He was born at Chatham on the 30th of January, 1815, and educated at University College, London. After qualifying himself in the usual manner, he began to

practise, and met at the outset with a degree of good fortune not accorded to every young practitioner. He was elected surgeon-accoucheur to the Royal Maternity Charity, a position which at once brought him into notice. He graduated as M.D. at the London University in 1844; whereupon he gave up his general practice, and devoted himself to pathological studies. His labours in this direction led to his appointment in 1849 as Professor of Pathological Anatomy in University College, and in the same year he was elected Assistant Physician to the College Hospital. It was about this time also, that he became a Fellow of the Royal College of Physicians. For some years Jenner had been engaged at the London Fever Hospital investigating the symptoms and characteristics of typhoid and typhus fevers, and he now proceeded to put the results before the public in two memoirs on "The Identity or Non-identity of Typhus and Typhoid Fevers," and on "Diseases commonly confounded under the term Continued Fevers," establishing by indisputable facts that typhus and typhoid were two distinct diseases. In arriving at this conclusion he had been preceded by Dr. Lombard, of Geneva, in 1836; by Drs. Gerhard and Pennock, of Philadelphia, in 1838; and by Dr. A. P. Stewart, formerly one of the physicians to the Middlesex Hospital, in 1840; but Dr. Jenner was the first to support his decision by carefully classified evidence, and by a lucid discrimination of the respective symptoms. He showed, as Sir Thomas Watson remarks,* that the two forms of fever differ notably and constantly in their symptoms and cause, in their duration, in their comparative fatality, in the superficial markings which respectively belong to them, and which warrant our classing them amongst the exanthemata, in the internal organic changes with which they are severally attended, and (what is the most

* SIR T. WATSON, *Lectures on the Principles and Practice of Medicine*, ed. 1857, ii. 795.

important and the most conclusive fact) in their exciting causes.

Various names have been suggested for the more accurate description of both these fevers. Typhus, popularly known as jail fever, hospital fever, brain fever, bilious fever, spotted fever; while from the peculiar lesions connected with it the terms "enteric" and "intestinal" have been suggested for typhoid—the latter by the late Dr. Budd. Dr. Charles Murchison has invented as a synonym "pythogenetic fever," a fever born of pestilence.

The premonitory symptoms of typhus are listlessness, loss of appetite, drowsiness by day, restlessness at night, shivering fits, and severe headache. Then comes loss of muscular power, and the patient takes to his bed. The later symptoms present three distinct sets of characteristics, each occupying about a week. In the first week, the heat of the skin increases, and the pulse becomes soft and feeble, while it rises to 120, and even to 140 beats in a minute. The thirst is considerable; the dry clammy tongue is coated in the middle with a white fur; the intelligence of the sufferer is perceptibly affected. In the second week, the pulse becomes feebler and more frequent; the tongue, drier and browner. The teeth and lips are invested with dark sordes—the "shedding" of morbid epithelium; and the patient is completely prostrated. Delirium comes on, and the characteristic eruption, which Jenner calls the "mulberry rash," though this sometimes appears as early as the fifth day. The senses are in a disturbed condition, and in critical cases the patient often suffers from *muscæ volitantes*, which induces attempts to grasp these visionary objects or to pick them from the bed clothes—a bad symptom (*floccitatio*), almost always prognostic of a fatal result. It is in the course of this second week that deaths generally occur. Sir William Jenner noted among twenty-five fatal cases that only nine deaths occurred after

the fifteenth day, and not one after the twentieth. Death is preceded by the symptoms known as "putrid," which we need not here describe. If the patient live into the third week, he usually falls into a deep and prolonged sleep between the fourteenth and seventeenth day, from which he awakes with evidences of general improvement, and the symptoms gradually abate.

As to typhoid, its distinctive symptoms are abdominal pains and diarrhoea, originating in an ulcerated condition of the intestines. The abdomen is unnaturally hard and resisting, tympanitic, and sometimes much distended. "Its shape," says Jenner, "is invariably the same, and somewhat peculiar. Its convexity is from side to side, and not from above downwards. The patient is never pot-bellied, but tub-shaped, the cause probably being that the flatus occupies the colon, ascending, descending, and transverse." A gurgling movement is another characteristic symptom; and so is the "rose-rash" which appears between the eighth and twelfth day of the disease, and is entirely different from the "mulberry rash" of typhus. Diarrhoea continues with the progress of the disease, and sometimes terminates in hæmorrhage—invariably an alarming symptom. With respect to the duration of the two fevers, Dr. Jenner found that the average duration of fatal cases of typhoid was twenty-two days, and of typhus fourteen days; the former disease may terminate favourably during the fourth week, and the latter from the thirteenth to the seventeenth day. After recovery from typhoid the sufferer will for a month or two remain in a deplorably enfeebled mental condition. "The whole man is changed," says Dr. Aitken; "he seems to have recovered his youth. Childhood and infancy return, and the greatest care is necessary to prevent untoward events."

Typhoid usually attacks much younger persons than typhus, the average age at which the former occurs being twenty-one

and-a-quarter years, while adults over fifty are practically exempt; but typhus attacks at all ages.

Referring to their *causes*, Sir William Jenner has proved that they are as distinct as the diseases themselves. The essential conditions for the propagation of typhus seem to be—overcrowding, with deficient ventilation; personal filth, and clothes saturated with cutaneous exhalations; and an impaired condition of the system. On the other hand, Dr. Budd has shown that the living human body is the hotbed in which the specific poison of typhoid breeds and multiplies. The origin of the disease is unknown; but the poison, as in cholera, is communicated or contained in the *fæca* which issue from the diseased intestine. These discharges preserve the typhoid germs, which are propagated by atmospheric and other agencies—of which drinking water is a very common one. As to methods of prevention and treatment, these would be out of place in a work like the present; but the reader who cares to pursue the subject further may consult Dr. Parkes' "Manual of Practical Hygiene"; Dr. Aitken's "Science and Practice of Medicine"; and Dr. Murchison's "Treatise on the Continued Fevers of Great Britain."

Dr. Jenner's fever researches brought him at once to the front of his profession. Elected F.R.C.P., he delivered the Gulstonian Lecture in 1852; was appointed Physician to the University College Hospital in 1854, and Professor of Clinical Medicine in 1857; became Physician-Extraordinary to the Queen in 1861, and Physician-in-Ordinary in 1862. In 1863 he was appointed Physician-in-Ordinary to the Prince of Wales. He attended the Prince Consort in his last illness; and, in conjunction with Sir William Gull, the Prince of Wales, during his attack of typhoid fever in the winter of 1871. A list of Sir William Jenner's justly-merited honours would be of little interest to the reader; and it will suffice to say that he was created a baronet in 1868, and a K.C.B. in 1872.

SIR ROBERT KANE, M.D., the son of a manufacturing chemist in Dublin, was born in 1810. He began his medical studies at the Meath Hospital; of which he became the clinical clerk. He early acquired distinction by essays upon medical subjects, winning Dr. Graves' prize for one on "The Pathological Condition of the Fluids in Typhus Fever." In 1832 he received his degree from Trinity College, and in 1841 was admitted a Fellow of the College of Physicians in Ireland. Taking up chemistry as his special line of study, he contributed several valuable papers to the *Dublin Journal of Medical Science*, which he founded in 1832. From 1844 to 1847 he held the appointment of Professor of Natural Philosophy to the Dublin Royal Society, and in 1847 received the Cunningham gold medal of the Royal Academy for his chemical discoveries. In 1844 he published a work on "The Industrial Resources of Ireland," which gained the attention and approval of Sir Robert Peel. His suggestion for the formation of an Irish Industrial Museum was carried out in 1846, and he was appointed Director. In the same year he received the honour of Knighthood. In 1849 he was appointed President of the Queen's College, Cork—an office which he filled most efficiently and satisfactorily until his retirement in 1864.

DR. ROBERT GORDON LATHAM, born at Billingborough, in Lincolnshire, in 1812, was educated at Eton and King's College, Cambridge, where he graduated in 1832. Afterwards he took up the study of medicine, was admitted a member of the London College of Physicians, and appointed Assistant-Physician to the Middlesex Hospital, where he lectured on Forensic Medicine and Materia Medica. His attention, however, was soon diverted to ethnological and philological pursuits, in which he acquired a considerable, though, it is to be feared, not a permanent reputation. His principal works comprise—a translation of the writings of Sydenham; "Natural History of the Varieties of Man," 1850; "Descrip-

tive Ethnology," 1859 ; "The English Language," 1855 ; a new edition of Johnson's Dictionary, 1870, completely superseded by later works ; and "Outlines of General or Developmental Philology," 1878.

One of the most distinguished names in English Surgery at the present day is that of SIR JOSEPH LISTER. He was born in 1828, and educated at the London University, where he graduated as B.A. in 1847. His tastes inclining towards the medical profession, he began the necessary course of study at University College, and took his M.B. degree there in 1852, with exceptional distinction, carrying off gold medals for proficiency in anatomy, botany, and surgery. He became a Fellow of the Royal College of Surgeons of England in 1852, and of that of Scotland in 1855, having studied for some time at Edinburgh under Professor Syme, whose daughter he married. As a physiologist and a pathologist he soon gained a wide and lasting repute ; his investigations were original and independent, and he knew how to embody their results in accurate and pleasing language. The breadth of his inquiries is indicated by the titles of their subjects ; such as "An Inquiry regarding the Parts of the Nervous System which regulate the Contractions of the Arteries," 1858, and "The Coagulation of the Blood" (Croonian Lecture), 1863.

As Professor of Surgery in Glasgow University and Surgeon to the Royal Infirmary, his attention was directed to the putrefactive changes which too frequently occurred, with fatal results, after operations, or in the treatment of wounds and lesions. In 1864 he read of the remarkable effect produced by carbolic or phénic acid on the sewage of the city of Carlisle, where its application, in small quantities, not only destroyed the offensive effluvium, but also the entozoa or parasites which infest cattle when pastured upon lands irrigated by human excreta. He immediately seized upon carbolic acid as the antiseptic agent of which he had been in

search, and in March, 1865, introduced it into the Glasgow Infirmary. At first it was employed in abscesses and in compound fractures; in 1867, in almost all surgical cases. The idea of this procedure Lister founded upon Schwann and Pasteur's theory,* that living germs or organisms in the atmosphere are actively engaged in producing putrefaction. The truth of this theory he tested and confirmed by experiment; and accordingly, to destroy the animalcular foes so dangerous to humanity, or to prohibit their access to the wounded parts, was his object in using carbolic acid.

His first paper on the subject may be read in *The Lancet* for 1867; and, commenting upon it, Dr. Wakely remarked that if his conclusions with regard to the usefulness of carbolic acid should be confirmed, it would be almost impossible to overrate the importance of his discovery. His discovery it might justly and properly be called; for though Lister based his use of carbolic acid upon the researches of Pasteur, his application of it to the case of compound fractures, opened abscesses, and other recent wounds, was entirely his own. At first, cotton wool was used in the application of the acid; but afterwards a material called antiseptic gauze was introduced—a loose cotton fabric, the fibres of which were impregnated with carbolic acid lodged in insoluble resin. Various modifications in detail have gradually been adopted, and special apparatus invented for the application of the acid; new antiseptics have also been employed; and “Listerism” is now recognized all over the world as one of the greatest improvements which Surgery has ever known—perhaps, the greatest.

Professor Volkmann, addressing the International Medical Congress in 1881, said†:—“The Antiseptic method has

* Lister says that the first suggestion of his system was derived from Professor Pasteur's treatise, in 1857, on Milk Fermentation.

† *The Lancet*, 1881, pp. 283-285. Some English surgeons, however, would certainly consider the Professor's praise exaggerated.

elevated surgery to the rank of the latest experimental science. Never has a discovery been made in surgery which has even approached this in its benefits to humanity in general. Many thousands of human beings have in the short space of time that has elapsed since then preserved life and limb, and been spared pain and a long confinement to a sick-bed; millions will yet share in their benefits, for the principles of the antiseptic treatment of wounds will *never* again be abandoned as long as the whole of our knowledge is not lost, no matter how we act or the points of attack may change. Perhaps we may some day succeed in treating injured limbs simply in heated or filtered air, or may have to strengthen the living power of resistance of the tissues and organs so that they can of themselves resist the action of our invisible enemies. England may be proud that it was one of her sons whose name is inseparably connected with this the greatest advance that surgery has ever made."

Professor Nussbaum has shown that for forty years, under his own direction as well as under that of his predecessors, among whom was the illustrious Stromeyer, fatal wound diseases raged, that nearly all patients with compound fractures died of them, and that even those with slight injuries often succumbed; that erysipelas and abscesses were matters of daily occurrence; that during the latter years hospital gangrene also appeared and attacked the dreadful number of 80 per cent. of all wounds and sores; that he stood helpless and powerless amid these conditions; and that at one step, after the general introduction of the antiseptic method, all this ceased, and instead, even after great operations, healing by first intention was introduced as an entirely new result.

Carbolic acid acting in some cases with toxic effects, Professor Lister, in 1881, after many experiments, adopted as a substitute, where a substitute might be found necessary, the oil of *Eucalyptus globulus*. He uses as a medium

dammar gum, and gauze impregnated with this mixture and paraffin has been prepared; in appearance and feel it mostly resembles carbolized gauze, but is unlike it in possessing an agreeable aromatic odour. Iodoform, terebene, and resonin have also found favour. Instead of gauze, Esmarch, we believe, uses cotton impregnated with iodoform.

The Royal Society of London awarded a gold medal to Professor Lister in 1880. The Universities of Cambridge, Edinburgh, and Glasgow have bestowed upon him the honorary degree of LL.D., and Oxford that of D.C.L. In December, 1883, he was created a baronet.

DR. HENRY MAUDSLEY was born at Giggleswick, near Settle, in Yorkshire, on the 5th of February, 1835; and educated at the Giggleswick Grammar School. Proceeding to London, he studied medicine at University College, and took the degree of M.D. in 1857. From 1859 to 1862 he was Physician to the Manchester Royal Lunatic Hospital; in 1869 was made Fellow of the Royal College of Physicians; and in 1870 delivered the Gulstonian Lectures. He is Professor of Medical Jurisprudence in University College; Consulting Physician to the West London Hospital; an honorary member of a legion of learned societies, British and foreign; and editor of the *Journal of Mental Science*. In 1884 the University of Edinburgh conferred upon him the degree of LL.D. As a writer, he is specially distinguished by his profound and philosophical treatment of cerebral disorders, and his able examination of complex psychological questions. His principal works—or, at least, those which are known to the present writer—are: “The Physiology and Pathology of the Mind,” 1867; “Body and Mind: the Gulstonian Lectures for 1870”; and “Responsibility in Mental Disease,” 1874.

DR. MORELL MACKENZIE was born at Leytonstone, in Essex, on July 7th, 1837. He was educated at Walthamstow, under

Dr. Greig, and formed an early desire to enter the medical profession; but the family circumstances being much changed by his father's sudden death in 1851, he was placed as a clerk in a London Assurance Company's office. The benevolence of a relative, however, enabled him to carry out his youthful purpose; he became a student at the London Hospital, where he obtained the gold medal for surgery, and attended lectures at the University College. In 1858 he became a member of the Royal College of Surgeons, and afterwards took the M.B. degree. He then went abroad, and studied under Trousseau and Ricord at Paris, under Rokitsky and Arlt at Vienna. An expedition to Pesth made him acquainted with the laryngoscope, an instrument* originally invented in 1855 by Mr. Manuel Garcia, but much modified by Dr. Czermak, the Hungarian doctor, in 1859.† On his return to London Mackenzie was appointed Resident Medical Officer at the London Hospital, and began a series of studies with the laryngoscope, of which he made successful use in several cases of throat disease. In 1862 he completed his M.D. degree at the London Hospital; and in the following year received from the Royal College of Surgeons the Jacksonian prize for an essay on the Diseases of the Larynx. Thenceforward he made throat diseases his specialty, pursuing it with an ardour and an ability which justify us in describing him as, in this branch of his profession, *facile princeps*. That the public think him so is clear enough from the immense extent of his practice, the rapid growth of which compelled him, in 1870, to abandon his connection with the London Hospital. His ingenuity has produced a number of new

* The non-professional reader is informed that it consists of a concave mirror, placed at an angle of 120° to 150° , by which light is thrown upon a small plane mirror, so placed in the posterior part of the cavity of the mouth as to exhibit the vocal chords of the interior of the larynx.

† Dr. Czermak's "Uses of the Laryngoscope" was published by the New Sydenham Society.

instruments and of modifications of old ones, for the better treatment of the maladies which he has made his own; and upon which he has written copiously and attractively—as in his treatise “On the Use of the Laryngoscope in Diseases of the Throat,” “Essays on Throat Diseases,” “Diphtheria,” “Hay Fever,” and “Diseases of the Throat and Nose.” He has also contributed to the medical journals, and to such non-professional periodicals as *The Fortnightly Review*.

DR. ALFRED H. McCLINTOCK—a distinguished Irish obstetric physician—was born in 1821, and died of cardiac disease and paralysis on the 21st of October, 1881. He began the study of medicine in the Louth Infirmary, and continued it at the Park Street School and Meath Hospital, Dublin, obtaining the licence of the Irish Royal College of Surgeons in 1842. His attention was specially given to the obstetric branch of the profession, and having taken the degree of M.D. at Glasgow, he was appointed to the chair of Midwifery in the Park Street School of Medicine. In 1854 he was elected Master of the Lying-in-Hospital, having been, with one exception, the youngest person ever chosen for that most valuable and responsible position. Having served the term of seven years with singular success, he removed to Merrion Square, where he rapidly built up a very extensive and lucrative obstetric practice. In 1863 he published his excellent “Clinical Memoirs on the Diseases of Women,” which furnish ample evidence of the “experience, clinical skill, soberness of judgment, and rigorous truthfulness in narration which characterized the author.” He also edited Savellie’s Midwifery for the Sydenham Society, and did the work so thoroughly that the Edinburgh University, in 1876, conferred upon him the degree of LL.D., *honoris causâ*. For an enumeration of his honorary professional distinctions we have no room.

DR. WILLIAM MUNK was born on the 24th of September,

1816; educated at University College, London, and at the University of Leyden, where he graduated as M.D. in June, 1837. He was admitted a member of the Royal College of Physicians in 1844, and, ten years later, a Fellow. In 1857 he was elected Harveian librarian, for which post his scholastic acquirements eminently fitted him. For many years he was Physician to the Royal Hospital for Consumption, and afterwards, to the Small Pox and Vaccination Hospital, and Consulting Physician to the Hospital for Incurables. Besides numerous papers in the medical journals, chiefly upon cardiac and pulmonary complaints, he is the author of a "Memoir of the Life and Writings of Dr. Paris," 1857, and of "The Roll of the Royal College of Physicians of London, compiled from the Annals and from other Authentic Sources," 1861.

DR. CHARLES MURCHISON, the son of a Scotch physician, was born in Jamaica in 1830. His father soon afterwards returned to Scotland, and settled at Elgin, where his son Charles was educated, until he was old enough to be sent (in 1845) to Aberdeen University. In 1847 Charles Murchison proceeded to Edinburgh, where he soon rose out of the rank of ordinary students, and, in 1850, was selected by Professor Syme to act as his house-surgeon. In August, 1857, he graduated M.D., and received the gold medal for his thesis on "The Pathology of Morbid Growths." Indefatigable and restless, he went to Dublin and Paris in prosecution of his studies; then accepted the Professorship of Chemistry in the Medical College, Calcutta; and afterwards accompanied the British expedition against Burmah. In 1855 he was back again in England, and became a member of the Royal College of Physicians. Always athirst for work, and capable of any amount of it, he accepted, in 1856, the posts of Assistant-Physician to King's College Hospital and Assistant-Physician to the London Fever Hospital. In the latter capacity he had ample opportunity for pursuing his investigations into the

nature, causes, and remedies of zymotic diseases, the result of which was, in 1862, his great work on "The Continued Fevers of Great Britain," founded on minute observation of 6703 cases of continued fever admitted into the London Fever Hospital in 1848-1857. A second edition in 1873 included data obtained from 28,863 cases admitted from 1848 to 1870. Though to some extent vitiated by its author's refusal to accept the conclusions of Budd and Jenner, it is a work of great and singular value—a store-house of facts, facts collected with the greatest care, and arranged with the utmost lucidity of method.

In 1868 Dr. Murchison published an admirable series of "Clinical Lectures on Diseases of the Liver," to the second edition of which he added the Croonian Lectures on "Functional Derangements of the Liver," delivered in 1874. He had previously accepted the appointment of physician at St. Thomas's Hospital, and joint-lecturer on Medicine. In 1877 he was elected President of the Pathological Society, and his inaugural address produced a deep impression by its freshness of suggestion and grace of style. He was, indeed, a man of rare and very considerable powers; a man of much originality and independence of thought; not easily subordinate to authority, but prone to form his own opinions, and firm in his adherence to them. His versatility was not less remarkable than his thoroughness; and one wonders how a practitioner, so deeply immersed in professional work, found leisure for so many and such various pursuits. For some years before his death, which took place suddenly in his consulting-room on the 23rd of April, 1879, he suffered severely from cardiac troubles, induced, very probably, by excessive exertion. "In personal appearance," says his biographer,* "he was slightly below middle stature, and before the commencement of his fatal illness, of sturdy robust build, with the appearance

* In *The Lancet* for May 3rd, 1879, p. 646.

of one well fitted to bear the trials and struggles of life. His head was large, the forehead high and full, the hair black, and eyes of surprising brilliancy and power of expression. In manner he was reserved, sparing of speech, and free from that impulsiveness which hails the ordinary acquaintances of life as esteemed friends. To those who knew him intimately, however, his full character was revealed, and they found in him a depth of love, tenderness, and sympathy, together with a constancy and devotion in friendship, rarely present in more demonstrative natures."

SIR RICHARD OWEN, M.D., F.R.S., the great comparative anatomist, was born at Lancaster, on the 20th of July, 1804. He received his education in the Lancaster Grammar School. Being originally destined for the naval service, he served for a short time as a midshipman on board *H.M.S. Tribune*; but at the close of the Great War, entered the medical profession with the intention of combining, as naval surgeon, a life on the ocean wave with the practice of medicine. He studied under a Lancaster practitioner, and afterwards went to Edinburgh, where he matriculated at the age of twenty. Besides attending the University curriculum, he became a pupil of Dr. Bartley, who is credited with the good work of having fostered in his pupil's mind that love of comparative anatomy which has led to such brilliant scientific results. In 1825 he entered St. Bartholomew's Hospital, and next year became a member of the Royal College of Surgeons. Having gained the good opinion of Abernethy, that eminent man made him one of his dissectors, and induced him to abandon his old design of again going to sea. It was through his influence Owen obtained the appointment—the assistant-curatorship of the Hunterian Museum—which determined the objects and studies of his future life. He had started as a general practitioner in Sale Street, Lincoln's Inn Fields; but he now abandoned the practice of his profession, and devoted himself

exclusively to the study of comparative anatomy. All the world knows what he has accomplished in this wide and important field. All the world knows the dramatic incident of his conjecture of the existence of a gigantic struthious bird, the *Dinornis*, from his examination of a single fragment of a fossil bone sent to him from New Zealand, in 1839. But his scientific achievements will best be understood from a list of his principal publications. Between 1833 and 1840 appeared his "Descriptive and Illustrated Catalogue of the Physiological Series of Comparative Anatomy," in the Hunterian Museum, in five volumes—a work of immense labour, which was followed, in 1845, by his "Descriptive and Illustrated Catalogue of the Fossil Remains of Mammalia and Fishes"; and, subsequently, by his "Catalogue of Osteological Specimens." Meanwhile, he contributed papers on the Pearly Nautilus* and the Mollusca to the Transactions of the Zoological Society (1831, 1833, 1836); and, in 1814, to the Transactions of the Royal Society, his memoir on the soft parts of certain Belemnites discovered in the Oxford clay of Wiltshire, for which, in 1848, the Royal Society awarded him its gold medal. In the article "Cephalopoda," in the "Cyclopædia of Anatomy and Physiology," he re-arranged the classification of the Molluscous sub-kingdom, dividing the Cephalopods into the two orders, Dibranchiata and Tetrabranchiata, including in the former the Spirula and the Belemnites, and in the latter the Nautilus and most of the other Cephalopods with chambered or siphunculated shells. As regards the Acephalous Mollusks, his observations on the species of Brachiopoda determined him to interpose them between the *Acéphales testacés* and the *Acéphales sans coquilles* of Cuvier.

* This is the only living member of the Tetrabranchiata, and though its beautiful chambered shell has long been familiar, the soft parts can hardly be said to be known by more than the one perfect specimen examined by Professor Owen.

Returning to 1832, we find in the "Philosophical Transactions" the first of his memoirs on the anatomy and physiology of the Monotrematous and Marsupial Animals. The second appeared in 1837, and others followed in 1838 and 1839. The general result is, that Owen for the first time indicated in these animals certain cerebral characters—especially the absence of the great commissure or *corpus callosum** between the hemispheres of the brain—which afterwards decided him to group them together in a separate sub-class under the name *Lyencephala*. Professor Owen's researches in this direction disclosed many new and interesting physiological facts, especially as to their reproductive organs. In 1834 appeared the first of his papers on the Reptilia. In 1840, in the Linnæan Society's Transactions, he published his celebrated paper on the anatomy of the *Lepidosiren annectens*, or Mud-fish of the Gambia, which he referred to the class of Fishes, in opposition to Dr. Natterer, its discoverer, who placed it among the Reptiles. Professor Owen's opinion has prevailed, and the *Lepidosirens* now constitute the highest order of Fishes, under the name of *Dipnoi* (= *Protopteri*, Owen). In 1841 the Geological Society's Transactions included his interesting account of the bone-structures of an order of extinct Batrachians, to which, in allusion to the labyrinthian pattern of the teeth, he gave the name of *Labyrinthodontia*. In 1845 he communicated to the same Society a description of the crania of an extinct genus of Reptilia, *Dicynodon*.

His observations on the Entozoa began in 1835. His first memoir on the Struthious Birds belongs in date to 1838, its subject being the *Apteryx Australis*. This was followed by his "Notice of the fragment of a femur of a Gigantic Bird of

* Both Huxley and Flower assert that a *corpus callosum* does exist, though it never attains to a high degree of development. De Blainville includes the Monotremes in the sub-class *Ornithodelphia*, and the Marsupials in the sub-class *Didelphia*.

New Zealand (*Dinornis*)," and by five papers on the extinct genera, *Dinornis* and *Palapteryx*. The gigantic wingless *Dinornis* must have stood at least ten feet in height. His other works may be brought under the following classification:—1, *Palæontology*, which includes his "Memoir on a Gigantic Extinct Sloth," 1842; "History of British Fossils, Mammals and Birds," 1846; "Palæontology; or, A Systematic Summary of Extinct Animals, and Their Geological Relations," 1850; "Fossil Mammals of Australia and the Extinct Marsupials of England," 1877; "The Fossil Reptilia of South Africa," 1876; and "The Extinct Wingless Birds of New Zealand," 1878. 2, *Philosophical Anatomy and Physiology* including "On the Archetype and Homologies of the Vertebrate Skeleton," 1848; "On the Nature of Limbs," 1849; "On Parthenogenesis, or the Successive Production of Procreative Individuals from a single Ovum," 1849; "Principes d'Ostéologie Comparée" (Paris), 1855. 3, *Odontology*, including his famous "Odontography," 1840, an exhaustive treatise on the comparative anatomy of the teeth; the article "Teeth," in the "Cyclopædia of Anatomy and Physiology"; and the article "Odontography," in the "Encyclopædia Britannica." 4, *The Classification of the Mammalia*, in his treatise "On the Classification and Geographical Distribution of the Mammalia, being the 'Reade' Lecture at Cambridge, with an Appendix on 'the Gorilla,' and the Extinction and Transmutation of Species," 1855, in which he takes the cerebral characters as the chief basis of his system. And 5, *The Anatomy of the Anthropoid Apes* as compared with that of Man—papers in the "Zoological Transactions" on the Orang-outang (or Mias), the Chimpanzee, and the Gorilla.

Professor Owen retired from the Curatorship of the Hunterian Museum in 1856 on accepting the office of Superintendent of the Natural History Department of the British

Museum. He has received numerous marks of distinction from foreign governments and scientific bodies, and is a D.C.L, an F.R.S., a Chevalier of the Legion of Honour and an Associate of the French Institute, a Chevalier of the Order of Merit of Prussia, etc., etc., etc. He took part in the organization of the Great Exhibition of 1851, and also in that at Paris in 1855. The Queen specially distinguished him by placing at his disposal, in 1852, a residence in Richmond Park—Sheen Lodge.

SIR JAMES PAGET, one of the most distinguished of living surgeons and pathologists, was born at Great Yarmouth in 1814. He is a younger brother of Dr. George Edward Paget,* the Regius Professor of Medicine in the University of Cambridge. He received his professional education at St. Bartholomew's Hospital, where he became conspicuous by his acquirements and abilities. In 1836 he qualified as a member of the London College of Surgeons, of which, in 1846, he was made an honorary Fellow. In 1847 he was appointed Arris and Gale Professor of Human Anatomy and Surgery to the College of Surgeons—a post which he held until 1852. The lectures on Surgical Pathology which he delivered annually attracted large audiences, not merely by their scientific research, but by their felicity of style and literary finish. They were published in 1853, and deal with the following subjects:—Nutrition, Hypertrophy, Atrophy, Repair, Inflammation, Mortification, Specific Diseases, and Tumours. Revised editions have since appeared; and in 1875, Sir James published a work of not inferior value, though of different character, his "Clinical Lectures and Essays." He has been an extensive contributor to the "Transactions" of the Royal Society and those of other learned bodies; and in all his compositions displays an unusual command of the graces of

* Born at Yarmouth on the 22nd of December, 1809, and educated at Cambridge, where he took his M.D. degree in 1838.

language, which entitles them to high literary rank. On the various well-deserved honours which have fallen to Sir James Paget's lot it is unnecessary to dwell. As Sergeant-Surgeon Extraordinary to the Queen, Surgeon to the Prince of Wales, and Consulting-Surgeon to St. Bartholomew's Hospital, he holds a foremost place in his profession. For some years he was President of the College of Surgeons, and also Vice-Chancellor of the London University. In 1876 he was appointed the representative of the College on the General Medical Council, and in 1877 he delivered the Hunterian Oration. He was created a baronet in 1871, and received at the same time the honorary degree of LL.D. from the University of Edinburgh. It was in this year that he experienced a severe attack of blood-poisoning, caught while attending the *post-mortem* examination of a patient who had died of pyæmia. For some time he suffered from its after-effects, and his illness from pneumonia in the closing months of 1881 was attributed to this cause.

Sir James Paget presided at the International Medical Congress in 1881, and his eloquent Presidential Address was distinguished by all his peculiar excellences. The following passage may be commended to the attention of the medical student:—

“Let us always remind ourselves,” he says, “of the nobility of our calling. I dare to claim for it that, among all the sciences, ours, in the pursuit and use of truth, offers the most complete and constant union of those three qualities which have the greatest charm for pure and active minds—novelty, utility, and charity. These three, which are sometimes in so lamentable disunion, as in the attractions of novelty without either utility or charity, are in our rescarches so combined that, unless by force or wilful wrong, they hardly can be put asunder. And each of them is admirable in its kind. For in every search for truth we can not only

exercise curiosity, and have the delight—the really elemental happiness—of watching the unveiling of a mystery, but, on the way to truth, if we look well round us, we shall see that we are passing among wonders more than the eye or mind can fully apprehend. And as one of the perfections of Nature is that, in all her works, wonder is harmonized with utility, so is it with our science. In every truth attained there is utility either at hand, or among the certainties of the future. And this utility is not selfish: it is not in any degree correlative with money-making; it may generally be estimated in the welfare of others better than in our own. Some of us may, indeed, make money and grow rich; but many of those that minister even to the follies and vices of mankind can make much more money than we. In all things costly and vain-glorious they would far surpass us if we would compete with them. We had better not compete where wealth is the highest evidence of success; we can compete with the world in the nobler ambition of being counted among the learned and the good who strive to make the future better and happier than the past. And to this we shall attain if we will remind ourselves that, as in every pursuit of knowledge there is the charm of novelty, and in every attainment of truth utility, so in every use of it there may be charity. I do not mean only the charity which is in hospitals or in the service of the poor, great as is the privilege of our calling in that we may be its chief ministers; but that wider charity which is practised in a constant sympathy and gentleness, in patience and self-devotion. And it is surely fair to hold that, as in every search for knowledge we may strengthen our intellectual power, so in every practical employment of it we may, if we will, improve our moral nature; we may obey the whole law of Christian love, we may illustrate the highest induction of scientific philanthropy.”*

* *The Lancet*, 1871, ii. pp. 207-210.

DR. EDMUND ALEXANDER PARKES was born at Bloxam, in Oxfordshire, on the 29th of March, 1819; educated at the Charterhouse; and entered in 1835 at University College, where his uncle (by marriage), A. T. Thompson, was Professor of Chemistry. The application and intellectual gifts of the young student speedily reaped high honours; and at his M.B. examinations in 1840 and 1841 he was exhibitor and medallist in all the principal branches of medical study. He gained the diploma of the Royal College of Surgeons in 1840. Entering the army medical service in 1842, he went as assistant-surgeon to the 84th Regiment to Madras and Moulmein. After three years' experience he retired from the army, and returning to London began to practise in Upper Seymour Street, Portman Square, with marked and flattering success. He found leisure, however, for the active employment of his pen, and from 1855 to 1885 edited the *British and Foreign Medico-Chirurgical Review*. In 1854 he was appointed one of the physicians to University College Hospital; in 1855 he delivered the Gulstonian Lectures at the College of Physicians, choosing as his subject "Pyrexia, or the State of Fever"; and in 1855, notwithstanding a weakness of constitution which had already declared itself, he accepted a commission from Government to establish an additional hospital near Scutari for the reception of our troops, and fixed upon Rankioi as its site. When the war was over the Government created an Army Medical School, and appointed Dr. Parkes Professor of Military Hygiene. The subject was one which he had already examined, and he now proceeded to study it in its various aspects, recording his conclusions in his "Manual of Practical Hygiene" (1864)—a learned and comprehensive work, which is not likely to be soon superseded. He continued his inquiries to the very end of his life, and accomplished much by his labours for the health of the general public as well as of the army. "With increase of years," says Sir William Jenner,

“his mind ripened, his sphere of action widened, his influence over others operated in new and perhaps more important ways; but in all moral and intellectual essentials Dr. Parkes was as a man what he was as a youth—he was animated by the same principles and stimulated by the same faith. As years went on his mind proved itself to be singularly well balanced; he possessed an extraordinary power of acquiring information; his memory was very retentive; he was unprejudiced as he was learned; he could use with care the information he acquired, and could express his ideas clearly and simply; his language was always elegant, and on occasions eloquent. His powers of observation, of perception, of reasoning, and of judgment were all good, and equally good. But as in his youth, so in his manhood, the beauty of his moral nature, his unselfish loving-kindness, his power of inoculating others with his own love of truth, with his own sense of the necessity of searching for the truth, of questioning nature till she yield up the truth, of earnest work, were his most striking characteristics.” Parkes died of consumption on the 15th of March, 1875.

DR. JAMES BELL PETTIGREW was born at Roxhill, Calderbank, Lanarkshire, on May 26th, 1834. He was educated at the University of Glasgow for classics and literature, and at Edinburgh for medicine, carrying off the gold medals for both Forensic Medicine and Anatomy. He graduated as M.D. in 1861, and afterwards held the offices of Resident Surgeon at the Edinburgh Royal Infirmary, and Pathologist; Lecturer on Physiology and Curator of the Museum of the Edinburgh College of Surgeons; and Sub-Curator of the Hunterian Museum at the Royal College of Surgeons in London. In 1875 he was appointed Professor of Medicine and Anatomy at St. Andrews. His researches in physiology and anatomy have been of a very delicate character, and he has done much to expose the nerves, valves, and muscles of the heart, and the

muscles of the stomach, bladder, and uterus. His theories of Flight have attracted the attention of the scientific world. To *The Lancet*, the "Philosophical Transactions," the "Proceedings of the Royal Society," the *Edinburgh Medical Journal*, and the "Transactions of the Royal Society of Edinburgh," he has contributed some valuable and recondite papers, anatomical, physiological, and physical.

DR. WILLIAM OVEREND PRIESTLEY, born near Leeds, on Midsummer Day, 1829, was educated at the University of Edinburgh, and took the degree of M.D. with much distinction in 1853. He settled in London as a physician in 1856, and gaining reputation for skill in obstetrics, became in 1862 Professor of Obstetric Medicine and Physician to King's College Hospital. In 1875 and 1876 he acted as President of the Obstetrical Society of London. He was one of the Physicians-Accoucheur to H.R.H. the late Princess Alice of Hesse, and was commissioned by the Queen to attend the Princess at Darmstadt. He is also one of the Physicians-Accoucheur to H.R.H. the Princess Christian. He is the author of a treatise on "The Development of the Gravid Uterus"; and of numerous medical and scientific papers.

DR. BENJAMIN WARD RICHARDSON was born on the 31st of October, 1828, at Somerby, in Leicestershire, and educated at Anderson's University, Glasgow. In 1854 he took the degree of M.D. at St. Andrews, and from the same University in 1859 received the honorary degree of M.A. In 1854 he won the Fothergill gold medal for his essay "On the Diseases of the Child before Birth"; and in 1856, the Sir Astley Cooper prize of £300 for an essay on the Coagulation of the Blood. In the same year he became, by examination, a member of the Royal College of Physicians, and was elected a Fellow in 1861. He was chosen to deliver the Croonian Lectures of the Royal Society in 1873. Possessed with a strong desire to benefit the individual and the community, to do something to lessen

the sum of human pain and increase the store of human happiness, he has energetically and incessantly applied to these objects a robust and clear-sighted intellect, sustained by a spirit of independence, and animated by a fearless spirit of inquiry. The breadth of his sympathies is proved by the various subjects which he has brought within the range of his investigations: such as, the diseases of modern life, their causes, cure, and prevention; the action of alcohol on the human frame; the effect of electricity on animal vitality; the best methods of ventilation. He has discovered the value of nitrite of amyl in subduing spasmodic and tetanic affections; the application of ether spray to abolish local consciousness during surgical operations; and the use of methylene bichloride as an anæsthetic. At the Social Science Congress, in 1875, he read a paper which excited very general interest—a fine scientific romance of an imaginary city of health, which he proposed to call Hygeia, into which disease and pain should never enter. Upon this and similar themes, upon personal healthiness and the evils of alcohol and tobacco, Dr. Richardson loves to discourse in our more influential periodicals—always in a popular, fresh, and breezy style, and with evident suggestions of the writer's earnestness.

DR. WILLIAM SHARPEY was of English descent, but was born at Arbroath on the 1st of April, 1802. He learned the rudiments of medicine under Dr. Arnott, his stepfather, and in 1817 entered the University of Edinburgh, joining the classes in the following year. In 1821 he became a Member of the Edinburgh College of Surgeons, and in 1822 proceeded to London, where he studied anatomy at the Great Windmill Street School. The following winter he spent at Paris, and returning afterwards to Edinburgh, graduated in 1823, the subject of his thesis being "Cancer of the Stomach." He then passed a few years in quiet practice at Arbroath, but in 1827 undertook a course of Continental travel, partly for the

general culture of his mind, and partly to train himself for his future medical career. He travelled through a large part of Germany, Switzerland, and Italy, performing his journeys, for the most part, like Goldsmith, and in our own time Bayard Taylor, on foot, and acquiring an extensive knowledge of men and manners, things and places. At Pavia under Panizza, and at Berlin under Rudolphi, he dissected with characteristic diligence, and made himself master of topographical anatomy. He also spent some time in study at Paris, Heidelberg, and Vienna. Fully equipped for professional work, he returned to Edinburgh in 1829, and in 1830 became Fellow of the Edinburgh College of Surgeons. For five years he lectured on Anatomy in the Extra-Academical School; but, in 1836, removed to London on his appointment to the chair of Anatomy and Physiology at University College—a post he held until compelled by the infirmities of old age to resign it in 1874. For the same long period he acted as one of the Secretaries to the Royal Society, which granted to him its Baly medal in acknowledgment of his valuable physiological researches. In 1859 the University of Edinburgh conferred on him the honorary degree of LL.D. He took an active part in the Royal Commission on Science appointed in 1870. For fifteen years he sat as Crown member in the General Medical Council; and the Government recognized his long and important public services by bestowing on him a pension of £150 a year. He died of bronchitis on the 11th of April, 1880, having been afflicted for a year or two previous to his death with partial blindness and gradually increasing imperfection of hearing.

Dr. Sharpey claims to be remembered as a scientific investigator, a public man of science, and a teacher. The first form of activity occupied his early years at Edinburgh; to the two latter he devoted the remainder of his life. In each he was eminently successful, and in each he achieved success by the same mental qualities. "He was remarkable for his power

of clear and sound judgment. He was also distinguished for the great amount of knowledge which he had accumulated—knowledge as accurate as it was varied. Not in matters of anatomy and physiology alone, but in reference to many other subjects, he could call up at will a long array of data in the form, not of uncertain and confused impressions and remembrances, but of clear and sharply-defined statements, the products of accurate painstaking observation preserved by means of a memory naturally retentive and carefully trained. On the other hand, the judicial attitude of his mind compelled him to keep the treasures of his memory marshalled in orderly array, available for instant and decisive use. Had he been lacking in critical power, his stores of knowledge were enough to have made him distinguished for his learning; had he been as ignorant as he was learned, his faculty of weighing in the balance and of finding out the weightier argument would still have left him a strong man. The happy union of large knowledge with clear judgment made him, or rather went far to make him, the remarkable man that he was." These qualities served him in good stead in his public offices, and helped to equip him as a great teacher. Among English physiologists and pathologists his name will always be conspicuous as that of a bold but sagacious investigator, whose labours in the field of morbid anatomy were assiduous and fruitful.

DR. JOHN SIMON, F.R.C.S., was born in 1816. Educated for the medical profession at King's College, London, he was elected a Fellow of the Royal College of Surgeons in 1844. Having served for some years as assistant-surgeon at King's College Hospital, he received, in 1848, the important appointment of Medical Officer to the City of London, and began at once a very vigorous warfare against Dirt and Disease. In the face of many difficulties he accomplished reforms which led to a marked improvement in the condition of the public health. His proved capacity for work of this kind was recog-

nized by the Government in a flattering manner. He was chosen to act as medical adviser to the General Board of Health, and afterwards preferred to the responsible position of Medical Officer to the Privy Council. He is the author of numerous valuable reports on the sanitary condition of the country, bristling with facts and figures of high interest to the student of hygiene and the sanitary reformer; and also of various essays and memoirs, physiological, pathological, and surgical. In 1872 the University of Munich conferred upon him the honorary degree of M.D., "*propter præclarissimam de sanitatē publicā tuendā atque augendā meritā.*" In 1876 he was made a Companion of the Bath; and in 1878, in acknowledgment of his great public services, which have unquestionably helped to lengthen human life and lessen human pain, his bust in marble was presented to the Royal College of Surgeons, by public subscription.

DR. ALFRED SWAINE TAYLOR, F.R.S., one of the most distinguished of English toxicologists, was born at Northfleet in 1806; educated at a private school at Hounslow; and, at the age of sixteen, became the pupil of a surgeon near Maidstone. In October, 1823, he entered as a student at Guy's and St. Thomas's, under Sir Astley Cooper and Mr. J. H. Green. After attending the medical schools of France, Germany, and Italy, he took the M.R.C.S.Eng. in 1830, and the M.D. at St. Andrews in 1852, and in the following year was elected a Fellow of the Royal College of Physicians. He was the first occupant of the Chair of Medical Jurisprudence at Guy's, and held it until his death. In connection with this subject he enjoyed a world-wide reputation; in medico-legal questions his opinion carried with it a kind of papal authority. He was one of the witnesses for the Crown in the notorious Palmer of Rugeley poisoning case, and contended that the poison employed was strychnia; in which opinion he was supported by Sir R. Christison. He was a

diligent and able writer, as witness his "Manual of Medical Jurisprudence," 1842; his work "On Poisons," 1848; his "Principles and Practice of Medical Jurisprudence," 1865; his "Manual of Chemistry" (in conjunction with Professor Brande), 1863; and his useful edition of Dr. Neil Arnott's treatise on "Physics," 1876. He died from heart disease on the 27th of May, 1880.

As a man of brilliant parts, a successful surgeon, a clever novelist, an accomplished artist, a good conversationalist, SIR HENRY THOMPSON fills a large place in the public eye. He was born at Framlingham, in Suffolk, on the 6th of August, 1820; was educated at University College, London; and appointed Surgeon to the Hospital in 1863, and Professor of Clinical Surgery in 1866. Before this time he had gained the ear of the profession by his essays on "The Pathology and Treatment of Stricture," and "The Healthy and Morbid Anatomy of the Prostate," and by his treatise on "Practical Lithotomy and Lithotrity," published in 1863. In the latter branch of surgery his success as an operator has probably never been surpassed; and led to his being summoned to attend the late King of the Belgians, to whom he was able to give the required relief, when the most eminent Continental surgeons had failed. For his services on this occasion he was knighted by Queen Victoria (1867). He has received several foreign distinctions. Sir Henry is well known as an earnest and able advocate of Cremation, and a not less earnest and able opponent of the use of alcoholic stimulants. In his book on "Food and Feeding" his literary skill is seen to much advantage. His two novels, "Charley Kingston's Aunt" (published under the *nom de plume* of "Pen Oliver"), and "All But," are agreeable evidences of his versatility; they display a keen faculty of observation as well as considerable descriptive power.

DR. ALLEN THOMSON was born at Edinburgh on the 2nd

of April, 1807; was educated at its High School, at the University, and at Paris; graduated at the University as M.D. in 1830, and in the following year was admitted a Fellow of the Royal College of Surgeons. In co-operation with Dr. Sharpey, he established the Extra-Academical School of Edinburgh. In 1839 he was appointed Professor of Anatomy at Aberdeen, but in 1841 he returned to Edinburgh, where, from 1842 to 1848, he occupied the University chair of Physiology. From 1848 to 1877 he was Professor of Anatomy in the University of Glasgow; and on resigning the chair received the honorary degree of LL.D., a similar honour having been conferred upon him six years previously by the University of Edinburgh. This is a very imperfect record of the professional duties and distinctions which have fallen to the lot of this eminent public teacher and scientific inquirer; but we have no space to add more than that, in 1877, he officiated as President of the British Association, and delivered a singularly striking inaugural address on "The Development of the Forms of Natural Life." As an anatomist and a physiologist, it is needless for us to say that Dr. Allen Thomson holds a very high rank, and is not less respected by foreign *savants* than by scientific men in his own country. Passing over his numerous contributions to medical and scientific journals, in which he has distinguished himself as an embryologist, we shall content ourselves with referring to his well-known "Outlines of Physiology" and his editions of Quain's "System of Human Anatomy."

SIR THOMAS SPENCER WELLS was born at St. Albans, Hertfordshire, in 1818. After studying under a local practitioner at Barnsley, and studying at Leeds and Dublin, he entered St. Thomas's, in London, where he engaged the attention of his teachers by the assiduity and ability with which he addressed himself to his professional work. Becoming a member of the Royal College of Surgeons in 1841,

he entered the navy as assistant-surgeon, but after a varied experience of life afloat and in the hospital, returned to London, and prepared to compete for practice. His appointment to the Samaritan Hospital, which was then devoted to the diseases of women, proved the turning-point of his career, by directing his energies to the cultivation of a difficult and delicate branch of surgery—that of ovariectomy—with which his name was to become indissolubly associated.

One of the most fatal diseases to which women have been subject is that of the *Ovarian Tumour*; that is, a formidable enlargement of one or more of the vesicles of the ovary into a mass weighing perhaps, 80 or even 100 lbs., filled with fluid, and either simple or cancerous. Formerly the only remedies known were tapping, and the various surgical and medical means of producing atrophy and absorption of the tumour. But none of these effected a radical cure, or administered any permanent relief, and, indeed, their result was almost always fatal. Towards the end of the seventeenth century a third remedy was suggested, namely, the removal of the morbid mass through an incision to be made in the front wall of the abdomen. In 1762, William Hunter introduced a plan for the performance of this dangerous operation, which was supported by John Hunter in 1785, and by Chambon, the French surgeon, in 1798. John Bell, of Edinburgh, lecturing in 1794, strongly maintained its feasibility. But the first person who ventured to act upon it was Ephraim McDowell,* an American who had been a pupil of John Bell. Settling down in Kentucky to practise, in 1809 he performed the operation on a middle-aged woman, who lived until 1841, when she completed her seventy-eighth year.†

* It is said, however, that a somewhat similar operation was performed by Mr. Robert Houstoun, of Glasgow, in August, 1801.

† In the papers on Ovariectomy, by Sir Spencer Wells, in *The Medical Times* for 1858 and 1859.

The hazardous nature of Ovariectomy, and the circumstances attending it, prevented the success of McDowell from exercising any great influence on the minds of medical practitioners. At all events, in England it was adopted only by the few, and at long intervals. In Edinburgh Mr. Lizars had one success in 1825, and one failure. In 1836 Dr. Jeaffreson, of Framlingham, adopted the short incision recommended by William Hunter, and succeeded. But in 1840 Mr. Benjamin Phillips met with failure at the Marylebone Infirmary. In 1842 Dr. Charles Clay, of Manchester, operated four times, and succeeded three. In November of the same year Mr. Walne had a successful case in London; and in September, 1846, Mr. Caesar Hawkins at St. George's Hospital. Dr. Clay, continuing to operate for many years, had 101 deaths in 395 operations, or nearly one in four.

It was about 1853 when Spencer Wells first assisted at an operation of this kind, the operator being Mr. Baker Brown, of the Middlesex Hospital. Unhappily, the patient died, and Sir Spencer was certainly not inclined towards an experiment which seemed so frequently to have a fatal termination. But serving with the British army in the Crimea, he saw a number of cases of recovery from abdominal wounds, when the conditions were fairly favourable; and began to think that there might be less danger in ovariectomy than he had supposed. Returning to London, he resumed his work at the Samaritan Hospital; and, in December, 1857, made his first essay to perform the operation; but, on Mr. Baker Brown's advice, did not carry it out. "It would be difficult," he says, "to imagine a position more disheartening than that in which I was placed when making my first trials. The first attempt, as I have said, was a complete failure, and strengthened not only in the minds of others, but in my own mind, the fear that I might be entering upon a path which would lead rather to an unenviable notoriety than to a sound professional reputa-

tion. And if I had not seen increasing numbers of poor women hopelessly suffering, almost longing for death, anxious for relief at any risk, I should probably have acquiesced in the general conviction—have been content with palliative tapping, or making some further trials of incision and drainage, or of iodine-injection, or of pressure, rather than have hazarded anything more in the way of ovariectomy. It may be forgotten now, but it is true, that at that time everything was against the venture. The medical press had denounced the operation, both in principle and practice, in the strongest terms. At the medical societies the speakers of the highest authority had condemned it most emphatically. The example of the men who had practised it was not followed; some of them had given it up. Only once had a successful result been obtained in any of our large metropolitan hospitals—that by Cæsar Hawkins, at St. George's Hospital, in 1846, and he never undertook it a second time. Every other attempt—at Guy's Hospital by Morgan, Key, and Bransby Cooper; at St. Thomas's, by Solly—had ended in death."

Spencer Wells, however, determined to persevere; and, by the introduction of many improvements, succeeded in depriving the operation of something of its hazardousness. Encouragement was given by the publication, in 1860, of Kiwisch's "*Diseases of the Ovaries*," translated by Professor Clay, of Birmingham, in which the tabulated results of all recorded cases furnished valuable information. Then came the introduction of chloroform, though, of late, bichloride of methylene has been substituted as a safer anæsthetic, and of the antiseptic treatment, which Sir Spencer Wells was one of the first to employ. Silk, or catgut, prepared with chromic acid, is used for ligatures and sutures instead of whipcord or twine. Other details have been modified according to the suggestions of experience; and this once terrible operation has been shorn of much of its terror. In February, 1881, Sir Spencer

Wells submitted a paper to the Royal Medical and Chirurgical Society, in which he reported two hundred cases of ovariotomy, completing one thousand which he had had under his care. Out of these thousand patients 231 had died, and 769 recovered; but the mortality had steadily diminished from 34 in the first hundred to 11 in the last. Since the 888th case all the operations had been in private practice, and all had been done antiseptically, the result being a reduced mortality of 10·6.* Mr. Erichsen, as President of the Society, justly said that the gratitude of the profession and the public was due to the man who had accomplished such a saving of human life. No one before had done such a work in surgery as to have recorded no less than a thousand cases of one great operation with so small a mortality. "I have lived," said Mr. Erichsen, "through the whole period covered by the operations, and have been present at meetings of this Society when the introduction of the operation was being discussed; and I cannot but call to mind the obloquy (in which I never myself shared, for I performed the operation myself until I left it in better hands) which attended the operation and the operator. It is something to have lived through an epoch of surgery which has seen an operation of this magnitude not only survive that obloquy, but become one of the most successful operations in surgery, when performed with sufficient care, attention to detail, and, of course, personal skill. Surgeons may go further, and say this, that surgery is more indebted to obstetricians (I do not use that word—which I abominate—gynæcologists) for great improvements effected in operative surgery, for it is to them we owe the great precautions which, independently of antiseptic or Listerian method, tended to lower the mortality of ordinary surgical cases. One cannot but think that the thanks to the author of the successful completion of one

* Dr. Keith, of Aberdeen, has published tables showing a mortality of only 3 per cent.

thousand cases should extend far beyond the limits of this room and this Society ; they are due to him from the profession and suffering humanity at large."

Sir Spencer Wells was elected President of the College of Surgeons in 1882, and received the well-deserved honour of a baronetcy in the same year. He is a very warm advocate of Cremation, and has taken an active part in sanitary reform, the improvement of the hygienic condition of our hospitals, and other measures affecting the public health and welfare.

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